





MASSACHUSETTS COLLEGE OF ART LIBRARY





MASSACHUSETTS COLLEGE OF ART LIBRARY





NORMAL ART SCHOOL  
OF  
MASSACHUSETTS.

1884-5.





CIRCULAR

OF THE

Massachusetts Normal Art School,

1679 WASHINGTON STREET, BOSTON,

(LATE THE DEACON HOUSE)

*UNDER THE DIRECTION OF THE STATE BOARD OF EDUCATION.*

TWELFTH YEAR, 1884-85.



BOSTON :

WRIGHT & POTTER PRINTING COMPANY, STATE PRINTERS,  
18 POST OFFICE SQUARE.  
1884.

Archives

LD

3634

M14C5

1884-71

536

State Board of Education.

HIS EXCELLENCY THE GOVERNOR.

HIS HONOR THE LIEUTENANT-GOVERNOR.

Hon. E. B. STODDARD . . . . .	Worcester.
Rev. ALONZO A. MINER, LL.D. . . . .	Boston.
Col. T. W. HIGGINSON . . . . .	Cambridge.
ADMIRAL P. STONE, LL.D. . . . .	Springfield.
Miss ABBY W. MAY . . . . .	Boston.
Hon. M. B. WHITNEY . . . . .	Westfield.
Gen. F. A. WALKER, LL.D. . . . .	Boston.
EDWARD C. CARRIGAN, Esq. . . . .	Boston.

Secretary of the Board.

JOHN W. DICKINSON, A.M.

## Assistant Secretary and Treasurer.

C. B. TILLINGHAST.

### Agents of the Board.

GEORGE A. WALTON, A.M.

CEO. H. MARTIN, A.M.

JOHN T. PRINCE.

BOARD OF VISITORS, NORMAL ART SCHOOL.

Rev. A. A. MINER, D.D.

Col. T. W. HIGGINSON.

MISS ABBY W. MAY.

Gen F. A. WALKER.

## FACULTY AND OFFICERS OF THE SCHOOL.

Mr. GEO. H. BARTLETT . . . . . *Principal.*

## Instructors.

Mr. GEO. H. BARTLETT . . . . .	Freehand, Light and Shade Drawing	Class A.
Mr. W. F. BRACKETT . . . . .	Architecture and Perspective	Classes A and C.
Mr. A. K. CROSS . . . . .	Geometry and Instrumental Drawing	Classes A and C.
Mr. CHAS. M. CARTER . . . . .	Drawing in the Public Schools	Class A.
Mr. ALBERT H. MUNSELL . . . . .	Sculpture and Advanced Perspective	Classes B and D.
Miss D. L. HOYT . . . . .	Painting in Water Color	Class B.
Miss M. A. BAILEY . . . . .	Painting in Oil	Class B.

Miss M. T. JONES, *Curator.*



# List of Students

WHO, HAVING PASSED THE EXAMINATION AND COMPLETED THE CERTIFICATE WORKS IN THE SEVERAL CLASSES ENUMERATED BELOW, HAVE RECEIVED CERTIFICATES OR THE DIPLOMA.

NOTE. — The numerals under each class signify the year (since 1870) in which the student, whose name is opposite, received the certificates.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.			A.	B.	C.	D.	
Avery, Helen W. . . .	75	79	-	-	-	Brewster, George T. . .	79	80	-	-	-
Anthony, Alfred J. . .	75	-	-	-	-	Bartlett, Carrie G. . .	79	-	-	-	-
Atwood, Evelyn . . .	77	-	-	-	-	Balch, Clara H. . . .	79	-	-	-	-
Adams, S. Herbert . . .	78	82	83	83	1883	Ballord, Emma P. . . .	80	82	-	-	-
Attwill, Lizzie B. . .	78	79	-	80	-	Brown, Lucy L. . . .	80	83	-	-	-
Adams, Chas. L. . . .	79	-	-	-	-	Bryant, Wallace . . .	81	83	82	84	1884
Allen, Ralph W. . . .	81	-	82	-	-	Bragdon, Emmie W. . .	81	83	-	84	-
Adams, Dora M. . . .	81	82	-	-	-	Balch, A. L. . . . .	81	-	-	-	-
Beer, John A. . . . .	74	-	-	-	-	Borland, Eva M. . . .	81	-	-	-	-
Berry, A. Hun . . . .	74	-	-	-	-	Blake, H. Landy . . .	82	-	-	-	-
Briggs, William . . .	74	-	78	-	-	Buck, N. Eveline . . .	82	82	-	-	-
Baker, Lucas . . . .	75	75	79	78	1879	Banfield, Gertrude E. .	82	-	-	-	-
Bowler, Emiline F. . .	75	78	-	80	-	Ball, Lois E. . . . .	83	-	-	-	-
Barry, Chas. A. . . .	75	75	-	77	-	Bancroft, Milton H. . .	83	84	-	-	-
Brackett, W. F. . . .	75	-	78	81	-	Bumstead, Mary G. . .	83	-	-	-	-
Ball, Fannie E. . . .	75	-	-	-	-	Blake, Annie E. . . .	84	-	-	-	-
Benham, Marion L. . .	75	-	-	-	-	Bailey, Henry T. . . .	84	-	84	-	-
Bowditch, Ellen O. . .	75	-	-	-	-	Bates, Florence M. . .	84	-	-	-	-
Brammer, Joseph . . .	75	75	-	-	-	Bates, Eliza J. . . . .	84	-	-	-	-
Bailey, Mercy A. . . .	75	-	-	-	-	Batchelder, Mary A. . .	84	-	-	-	-
Bucklin, Wm. S. . . .	76	-	-	-	-	Bartlett, M. Lizzie . . .	84	-	-	-	-
Booth, Etta E. . . . .	76	-	-	-	-	Byron, Hattie E. . . .	84	-	-	-	-
Belleville, Hattie M. .	76	-	-	-	-	Carleton, Hannah E. . .	74	82	-	-	-
Burrage, Hattie A. . .	76	80	-	-	-	Carney, Ellen D. . . .	74	75	-	80	-
Binney, Anna S. . . .	76	-	-	-	-	Crawford, James W. . .	74	-	-	-	-
Bradbury, Elenora C. .	77	78	81	79	1881	Clapp, Mary E. . . . .	74	77	-	-	-
Bartlett, Mary G. . . .	77	79	-	-	-	Cleaveland, Julia H. . .	75	-	-	-	-
Babbitt, Annie M. . .	77	-	-	-	-	Colby, Eugene C. . . .	75	77	-	-	-
Burrison, Henry K. . .	78	-	-	-	-	Carter, Walter E. . . .	75	-	-	-	-
Brown, Hannah M. . . .	78	-	-	-	-	Carter, Chas. M. . . .	76	78	79	79	1879
Birney, Wm V. . . . .	78	79	-	-	-	Curtis, Annie E. . . .	76	78	-	-	-
Beals, Willis H. . . .	78	79	-	-	-	Coburn, Bella . . . .	76	78	-	-	-
Brown, Maria L. . . .	78	-	-	-	-	*Cook, Herman E. . . .	77	-	-	-	-

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Coffin, Clara A. . . .	77	-	-	-	--		Farley, Helen S. . . .	77	80	-	82	--
Cheney, Alice E. . . .	78	80	-	-	--		Fowler, John S. . . .	77	-	79	-	--
Creighton, Hattie R. . .	78	-	-	-	--		Flagg, Linna B. . . .	78	79	-	-	--
Colcord, Clara M. . . .	78	80	-	-	--		Flagg, Hiram P. . . .	78	-	-	-	--
Collins, Frank H. . . .	79	80	-	-	--		Folger, Lizzie M. . . .	78	81	-	-	--
Carleton, Herbert E. . .	79	-	-	-	--		Furbush, M. Josephine .	79	80	-	81	--
Church, George B. . . .	80	-	-	-	--		Fairbanks, Harold W. . .	80	-	-	-	--
Cook, Lucy R. . . . .	80	84	-	-	--		Ferson, Earl B. . . . .	80	82	81	83	1883
Carleton, Harriet E. . .	80	-	-	-	--		Field, Luisa M. . . . .	80	-	-	-	--
Christie, Helen . . . .	80	-	-	-	--		Falk, Albion W. . . . .	83	-	-	-	--
Copeland, Edith S. . . .	80	-	-	-	--		Frost, Clara D. . . . .	84	-	-	-	--
Chapin, Mary . . . . .	81	-	-	-	--		Fuller, Lucretia J. . . .	84	-	-	-	--
Collins, Alice M. . . . .	81	-	-	-	--		Goodnough, Walter S. . .	74	-	-	-	--
Carter, Mary E. . . . .	81	-	-	-	--		Green, Michael J. . . . .	75	-	-	-	--
Church, Wallace B. . . .	82	-	-	-	--		Gardner, Ella L. . . . .	76	-	-	-	--
Codding, Julia P. . . . .	82	-	-	-	--		Gotte, Jean M. . . . .	76	78	-	-	--
Cross, Anson K. . . . .	82	82	83	-	--		Greenwood, Lonis A. . . .	76	77	-	-	--
Carter, Hannah J. . . . .	82	83	-	-	--		Green, Ella C. . . . .	77	78	80	79	1880
Clark, Fannie M. . . . .	82	83	-	-	--		Greer, Grace W. . . . .	78	-	-	-	--
Cleaves, Florence . . . .	83	-	84	-	--		Griggs, Anna F. . . . .	78	-	-	-	--
Calrow, Alice B. . . . .	84	-	-	-	--		Goddard, Annie F. . . .	78	-	-	-	--
Carter, Fannie E. . . . .	84	-	-	-	--		Gilman, Mary A. . . . .	79	-	-	-	--
Crooks, Fanny E. . . . .	84	-	-	-	--		Graves, Albert M. . . . .	80	81	83	82	1883
Dean, Walter L. . . . .	74	-	-	-	--		Guild, Alice E. . . . .	80	82	-	-	--
Dudley, L. Hannah . . . .	74	-	-	-	--		Gardner, Harriet E. . . .	81	83	-	-	--
Day, Lizzie G. . . . .	75	78	80	81	1881		Gay, Emma J. . . . .	82	83	-	-	--
Dupee, Annie E. . . . .	76	-	-	-	--		Gillam, C. Marguerite . .	82	-	-	-	--
Dimock, Elizabeth F. . . .	76	-	-	-	--		Gendrot, Julia A. . . . .	84	-	-	-	--
Dupee, Octavia G. . . . .	76	79	-	-	--		Gendrot, Albert F. . . .	84	-	-	-	--
Davis, Annie M. . . . .	77	78	79	78	1879		Gauthier, Julie C. . . . .	84	-	-	-	--
Dowe, Lemuel A. . . . .	79	-	-	-	--		Hoyt, Deristhe L. . . . .	74	75	-	77	--
Dyer, Florence A. . . . .	80	-	-	-	--		Hooper, Wm. P. . . . .	75	-	-	-	--
Dow, Grace L. . . . .	81	-	-	-	--		Hintz, Bertha W. . . . .	75	-	-	-	--
Damon, Evelina M. . . . .	83	-	-	-	--		Hitchings, Henry . . . .	75	-	-	-	--
Dinsmore, Chas. H. . . .	83	-	-	-	--		Hollis, Cynthia E. . . . .	76	77	81	80	1881
Dowse, Fannie C. . . . .	83	-	-	-	--		Holmes, Anna C. . . . .	76	-	-	-	--
Dutton, Alice M. . . . .	83	-	-	-	--		Hammond, Geo. F. . . . .	76	-	-	-	--
Dyer, Carrie E. . . . .	83	-	-	-	--		Hill, Louise M. . . . .	76	78	-	-	--
Damon, Nellie L. . . . .	84	-	-	-	--		Holmes, Oliver S. . . . .	76	-	-	-	--
Emerson, Fannie S. . . .	75	-	-	-	--		Hapgood, Melvin P. . . .	76	-	-	-	--
Elliott, Geo. B. . . . .	77	-	-	-	--		Howard, Mary . . . . .	76	77	79	79	1879
Edmans, Lena P. . . . .	79	81	-	81	--		Howard, Adelia K. . . . .	76	-	-	-	--
Everett, Sadie E. . . . .	82	-	-	-	--		Halcott, Calista . . . . .	77	-	-	-	--
England, Wm. A. . . . .	82	84	-	84	--		Holmes, Henry . . . . .	77	-	-	-	--
Eaton, Eliza S. . . . .	84	-	-	-	--		Horsford, Gertrude H. . .	77	-	-	-	--
Ellinwood, Minnie C. . . .	84	-	-	-	--		Howard, G. M. . . . .	77	-	-	-	--
French, Loresta E. . . . .	74	-	-	-	--		Huntington, Carrie M. . .	77	78	79	80	1880
*Fisher, Maud R. . . . .	75	77	-	-	--		Holland, Chas. J. . . . .	78	-	-	-	--
Francis, Ellen A. . . . .	77	-	-	-	--		Hill, Carrie N. . . . .	79	-	-	-	--

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Hamilton, Edward W. . .	80	81	82	83	1883		Munsell, Ida E. . . .	82	84	-	-	-
Hersey, Ada H. . . .	80	83	-	-	-		MacNeil, Herman A. .	83	-	84	-	-
Hersey, Clara . . . .	80	-	-	-	-		Mason, Alice C. . . .	83	-	-	-	-
Hildreth, Mary E. . . .	80	-	-	-	-		Mann, Josephine B. .	84	-	-	-	-
Holden, Alice E. . . .	80	-	-	-	-		Mendum, Mary E. . .	84	-	-	-	-
Horton, Helen . . . .	80	-	-	-	-		MacLauthlin, Rena .	84	-	-	-	-
Hutchings, Lydia A. .	80	-	-	-	-		Murray, Henry D. . .	84	-	-	-	-
Herrick, Lizzie A. . .	81	84	-	-	-		Matthews, Joseph D. .	84	-	-	-	-
Hewins, Ellen A. . . .	81	-	-	-	-		McCarthy, John . . .	84	-	-	-	-
Harding, Emily E. . . .	83	-	-	-	-		Nolen, Caroline . . .	74	-	-	-	-
Haskell, Jennie P. . .	84	-	-	-	-		Norcross, Ella A. . .	75	77	-	-	-
Johnson, Mary E. . . .	75	77	-	-	-		Nason, M. E. . . . .	77	-	-	-	-
Joslyn, Mary E. . . .	75	78	-	-	-		Norton, Dora M. . . .	79	80	81	-	-
Jepson, George . . . .	77	-	-	-	-		Needham, Ellie . . .	81	-	-	-	-
Jennison, Lucia M. . .	81	-	-	-	-		Noyes, Frank H. . . .	84	-	-	-	-
Jackson, Jennie M. . .	83	-	-	-	-		Nye, A. Maud . . . .	84	-	-	-	-
Jaques, Martha F. . . .	84	-	-	-	-		Oakes, S. Pierce . . .	75	-	-	-	-
Kingsbury, Edward R. .	76	77	-	-	-		O'Conner, Minnie . .	79	-	-	-	-
Kaan, Emma W. . . . .	81	84	-	-	-		Pierce, Osborn J. . .	74	-	-	-	-
Locke, Emma F. . . . .	74	79	79	80	1880		Putnam, Benj. W. . .	74	75	-	-	-
*Lord, John D. . . . .	74	-	-	-	-		Parker, Frank G. . . .	75	-	-	-	-
Loring, George A. . . .	75	-	-	-	-		*Patten, Arthur C. . .	75	77	76	77	1877
Loring, Susan A. W. . .	76	-	-	-	-		Peabody, Margie G. . .	75	-	-	-	-
Lock, Josephine C. . . .	77	81	-	-	-		Perrin, Julia . . . . .	75	-	-	-	-
Lovering, Ella M. . . .	79	80	82	81	1882		Perry, Walter S. . . .	75	-	-	-	-
Lamb, F. Mortimer . . .	80	81	-	82	-		Pitman, Sophia L. . .	75	76	-	-	-
Langley, Annie W. . . .	80	-	-	-	-		Palmer, Laura E. . . .	76	-	-	-	-
Little, Abbie H. . . . .	80	82	-	-	-		Plaisted, Lilla M. . .	76	79	-	78	-
Laughlin, Ada M. . . .	82	-	-	-	-		Parsons, Caroline L. .	77	78	-	-	-
Lewis, Jennie F. . . . .	82	84	-	-	-		Parsons, Lydia A. . .	77	-	-	-	-
Livingston, Cora J. . . .	83	-	-	-	-		Perry, Chas. H. . . .	77	-	-	-	-
Lawrence, Chas. A. . . .	84	-	-	-	-		Porter, George M. . .	77	-	-	79	-
Miller, Leslie W. . . . .	74	80	-	-	-		Page, Henrietta . . . .	78	-	-	-	-
Mansfield, Mary . . . .	75	75	-	-	-		Parker, Emma T. . . .	78	-	-	-	-
Marble, J. M. . . . .	75	-	-	-	-		Prichard, John A. . .	78	79	80	79	1880
Mason, Wm. A., Jr. . . .	75	80	79	80	1880		Prince, Flora . . . . .	78	-	-	-	-
Marsh, Helen F. . . . .	76	-	-	-	-		Piper, Edwin D. . . .	79	-	81	-	-
Mansfield, Frank . . . .	77	-	-	-	-		Poole, Jennie A. . . .	80	-	-	-	-
Moon, Mintie . . . . .	77	79	-	-	-		Poor, Henry W. . . . .	80	81	83	82	1883
Munsell, Albert H. . . .	77	79	80	81	1881		Page, Hollis B. . . . .	81	-	-	-	-
Merrian, Ada A. . . . .	78	-	-	-	-		Pillsbury, E. . . . .	81	-	-	-	-
Molineux, Henrieta . . .	78	-	-	-	-		Pond, Adeline V. . . .	81	82	-	83	-
Mellen, Laur M. . . . .	79	-	-	-	-		Packard, Fred C. . . .	82	-	-	-	-
Merritt, Jennie M. . . .	80	82	-	-	-		Page, Edith . . . . .	83	-	-	-	-
Metcalf, Emma F. . . . .	80	-	-	-	-		Peterson, Georgia . .	83	-	-	-	-
Morris, George E. . . . .	80	81	82	83	1883		Roos, Peter . . . . .	74	-	-	-	-
Meisel, Jennie M. . . .	81	83	-	-	-		Robbins, Sarah H. . .	75	-	-	-	-
Mills, Alice . . . . .	81	-	-	-	-		Rose, Eben . . . . .	75	79	79	78	1879
Martin, H. Isabel . . . .	81	82	-	-	-		Roy, Viola G. . . . .	76	-	-	-	-

\* Deceased.



NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Radford, Helen L. . . .	78	-	-	-	--		*Thaxter, Thomas W. . .	77	-	-	-	--
Rich, Delia C. . . .	78	-	-	-	--		Thompson, L. S. . . .	77	-	-	-	--
Richards, W. F. . . .	78	-	-	-	--		Torrey, Wm. F. . . .	77	-	-	-	--
Richardson, Theo. J. . .	79	-	-	-	--		Trask, Abbie J. . . .	77	-	-	-	--
Rodman, Warren A. . .	79	-	-	-	--		Thomas, Ella A. . . .	78	-	-	-	--
Richards, Mary F. . . .	80	82	-	-	--		Titus, Lucy E. . . .	80	-	-	-	--
Roberts, Walton H. . . .	81	-	-	-	--		Taylor, George . . . .	81	82	-	-	--
Robinson, Wm. S. . . .	81	83	82	84	1884		Todd, Emma . . . .	81	83	-	84	--
Rice, Abby E. . . .	83	-	84	-	--		*Tibbets, Arthur L. . .	82	-	-	-	--
Roberts, Gertrude . . .	84	-	-	-	--		Tilton, M. Bessie . . .	82	-	-	-	--
Shaw, Annie F. . . .	75	77	-	-	--		Titus, Sarah A. . . .	83	-	-	-	--
Spalter, A. Maria . . .	75	-	-	-	--		Teed, Hannah J. . . .	84	-	-	-	--
Stewart, Nellie W. . . .	75	77	-	-	--		Vonnoh, Robert W. . .	77	78	-	79	--
Saunders, Carrie H. . .	76	78	-	-	--		Vance, Carrie M. . . .	82	84	-	-	--
Shepley, Annie B. . . .	76	-	-	-	--		Walker, Sophia A. . . .	75	-	-	-	--
Starbuck, Francis M. . .	76	-	-	-	--		Whiton, Maria E. . . .	75	-	-	-	--
Smith, Elmer B. . . .	77	-	-	-	--		Ware, George Wild . . .	76	-	-	-	--
Sanborn, Arthur H. . . .	78	-	-	-	--		Wellington, Leah M. . .	76	77	-	78	--
Shattuck, Katie E. . . .	79	-	-	79	--		Webster, Clara E. . . .	77	78	80	79	1880
Sherman, Lillie L. . . .	78	-	-	-	--		Webster, Addie L. . . .	77	-	-	-	--
Smith, Elmira G. . . .	78	-	-	-	--		Woodman, George E. . .	77	-	-	-	--
*Stetson, Julia A. . . .	78	79	-	-	--		Watson, Lucretia S. . .	78	-	-	-	--
Storer, Charles . . . .	78	-	-	-	--		Webster, M. Isabel . . .	78	80	-	-	--
Stone, Josephine M. . .	78	78	-	-	--		*Webster, Clara E. . . .	78	-	-	-	--
Simmons, Elizabeth J. .	78	81	-	-	--		Wellington, Sarah H. . .	78	-	-	-	--
Stacey, John F. . . .	79	79	81	80	1881		Whitney, Lizzie E. . . .	78	79	-	-	--
Smith, Clara M. . . .	80	-	-	-	--		Whitney, Chas. F. . . .	78	-	-	-	--
Smith, May L. . . .	80	81	-	82	--		White, Abbie M. . . .	78	-	-	-	--
Sherry, A. Fannie . . .	80	81	-	-	--		Wild, Mary E. . . .	78	-	-	-	--
Swasey, Josephine F. M.	80	-	-	-	--		Williams, Maria F. . . .	78	-	-	-	--
Scribner, A. W. . . .	81	82	84	83	1884		Wiley, Emma I. S. . . .	78	-	-	-	--
Sears, Kate B. . . .	82	-	-	-	--		Wilson, Clara . . . .	79	80	83	81	1883
Sears, Minnie P. . . .	82	-	-	-	--		Whitcomb, Camilla G. .	80	81	-	-	--
Sherman, Mertie E. . . .	82	84	-	-	--		White, Sarah L. . . .	80	-	-	-	--
Slafter, Annie R. . . .	82	83	-	-	--		Withey, Alice A. . . .	80	81	-	82	--
Stetson, M. Josie . . . .	82	-	-	-	--		Woods, Jennie A. . . .	80	82	-	-	--
Sweeny, Thomas E. . . .	82	83	84	-	--		Woods, Florence . . . .	80	-	-	-	--
Sanborn, Lizzie M. . . .	83	-	84	-	--		Walker, Gertrude B. . .	81	-	-	-	--
Skinner, Wm. L. . . .	83	84	-	-	--		Walton, Mary . . . .	81	-	-	-	--
Smith, Fannie H. . . .	83	-	-	-	--		White, Lucy F. . . .	82	-	-	-	--
Spaulding, Alice Maude	84	-	-	-	--		Whitcomb, Fannie M. .	82	-	-	-	--
Tufts, Abbie B. . . .	74	-	-	-	--		Wilbar, M. Ella . . . .	82	-	-	-	--
Taylor, Will L. . . .	75	-	-	-	--		Wilson, Lizzie E. . . .	82	-	-	-	--
Tucker, Emily J. . . .	75	-	-	-	--		Woodward, William . . .	83	83	84	-	--
Thompson, Wm. A. . . .	76	-	-	-	--		Wadsworth, Florence L.	84	-	-	-	--
Taft, Mary F. . . .	77	-	-	-	--		Weymouth, Georgia . .	84	-	-	-	--

\* Deceased.



# Massachusetts Normal Art School.

---

In view of the great importance of drawing as a branch of education, the Legislature, by an Act passed May 16, 1870, made instruction in this branch obligatory in the public day schools, and required cities and towns containing more than ten thousand inhabitants to make provision for free instruction in industrial drawing to persons over fifteen years of age. This act met with much public favor ; but it was soon found that it was impossible to realize satisfactorily the benefits intended by the Act for want of competent teachers. A Resolve was therefore passed by the Legislature providing for the establishment and maintenance of a State Normal Art School.

## DESIGN OF THE SCHOOL.

This school is intended to be a training school for teachers of industrial art. The specific aim at present is to prepare instructors to teach and superintend industrial drawing in the schools of the State. It also aims to provide for high skill in technical drawing, and for industrial art culture.

## LOCATION.

No. 1679 Washington Street, Boston (late the Deacon House).

**CONDITIONS OF ADMISSION.**

Candidates for admission must be above sixteen years of age ; must bring a certificate of good moral character from some well-known person in the town in which they reside, and must be able to pass an examination in the common English branches of study, and in free-hand drawing of ornament from copy. (See also preparatory class ) This examination will be held at the beginning of each school year. Tuition is free to students residing within the State and intending to teach drawing in the public schools, but five dollars per term will be charged for incidentals. Tuition for students from without the State is fifty dollars per term. Students requiring instruction in special studies may enter any class without passing through class A, by payment of a fee of fifty dollars per term, and passing an examination.

All fees are payable to the curator at the beginning of each term.

**COURSE OF INSTRUCTION.**

4 The school offers a four years' course (see class A) of training in the mechanical and artistic branches, and their practical application to industry. The work of class A is devoted to elementary drawing ; of class B to form, color and industrial design ; of class C to the constructive arts, and of class D to sculpture and design in the round. Many of the lectures are given during the first term, and cannot be repeated during the second term. For the work of classes A, B or D the student, if desirous, will receive a written statement from the principal. Students having

completed the work of classes A and C, will receive a diploma certifying that they are qualified to teach mechanical and architectural drawing ; those having completed the work of classes A, B and D, one certifying to their qualifications to teach industrial art.

#### **CLASS IN THE ART INDUSTRIES AND REPRODUCING ARTS.**

This class and the subjects taught in it are elective ; only the students of classes B, C and D are eligible for membership. The class will be instructed by the various teachers, each taking some special art.

By the instruction given, students will be made practically familiar with some of the industrial arts, and for this reason more competent to give instruction in subjects bearing upon the art industries of the State.

#### **EXAMINATIONS.**

In addition to the regular certificate works, class exercises in the subjects studied during the year must be submitted to show whether the student has acquired the knowledge and manipulative skill necessary for teaching industrial art. If the works pass examination and an average of 65 per cent in time sketches and test examination has been earned, the student will be entitled to the certificate examination at the end of the school-year. Students failing to pass in any subject may apply again the next year on condition that they again perform all the regular class-work required in that study, but they will not receive any certificate until all the subjects of examination have been passed and all certificate works approved.

**POST GRADUATE COURSE.**

Graduated students may continue the course of study for one year, without payment of fees, on condition that if called upon by the principal they will devote some of their time to teaching in the school.

**RECOMMENDATIONS FOR APPOINTMENT.**

The school takes no responsibility in securing appointments, but applications for teachers will be brought to the attention of such students as the faculty judge best prepared to do the required work.

**REGULATIONS OF THE SCHOOL.**

All materials and apparatus required are to be provided by the students ; no examples for instruction can be removed from the school by them, and any damage done to the property of the school must be paid for by those causing it.

Attendance will be registered daily and absence or tardiness must be explained to the instructors. Excuses will be granted by the principal only upon application made through the instructor of the class.

Every student will be provided with a locker, in which to keep boards and drawing materials. On receiving the key the student must deposit one dollar as a guaranty that the key will be returned ; when this is done the money will be refunded. Keys lost or broken by students must be replaced by them.



The only works allowed to be executed in the school, are those required by the instructors to illustrate their lectures or lessons, and those on the list of certificate works.

Each instructor will require a certain amount of work to be done by the students between lectures which must be regarded as a part of the regular school work.

Any text-book required for use or reference will be indicated by the instructor.

Students may remain in any class for two years, but having failed to complete the required work within that time, will be considered as no longer belonging to it, and can complete this course of study only as special students.

Students who have passed through class A, and whose appointments as teachers of drawing prevent their attendance at the school, upon the payment of the regular fees, and presenting the required works for any succeeding class, and giving satisfactory evidence that they are their own productions, will be treated as if in attendance at the school.

Any certificate work which, in the opinion of the principal, does not show sufficient skill to qualify the student to teach the subject, will be rejected and another one required.

Not less than one work nor more than two works from the set belonging to each student, will be retained as the property of the school.

The student who produces the best set of works in his class will receive a written certificate from the principal testifying to the fact; these sets will be retained for one year and placed on exhibition in the school.

The discipline of the school is made as simple as possible ; pupils are expected to govern themselves, to do without compulsion what is required, and to refrain from all improprieties of conduct ; those who are unwilling to conform to the known wishes of the teachers are presumed to be improper persons to continue in the school.

All persons presenting themselves for admission to the school are judged to have read these regulations, and the signed application is considered a pledge to abide by them.

#### **SCHOOL YEAR.**

The school year of 1884-5 will begin the third Monday in September, 1884, and close the last Friday in June, 1885.

The year is divided into two terms : the first comprises the months of September, October, November, December and January ; the second, the months of February, March, April, May and June.

#### **SESSIONS.**

Instruction is given from 9 A. M. to 1 P. M., and from 2 to 4 P. M., on Monday, Tuesday, Wednesday, Thursday and Friday.

#### **VACATIONS AND HOLIDAYS.**

Thanksgiving Day and the remainder of the week. Christmas Day to New Year's Day inclusive. Two weeks at the close of the first term. Washington's Birthday, Good Friday, Fast Day. The second week in April and Decoration Day.

**PREPARATORY CLASS.**

INSTRUCTORS, SAME AS IN CLASS A.

For the benefit of those persons who have not had the training necessary to qualify them for admission to class A, an elementary or preparatory class has been established, for admission to which an examination in outline drawing from copy will be given. In this class instruction will be given in the following subjects:—Forms of bodies as the basis of drawing; single and combined working views; freehand and instrumental perspective views; elementary drawing and design; instrumental geometry and perspective; a graded course in light and shade, using charcoal, sepia, crayon and water color. One finished drawing in each subject must be made, so arranged as to show the method of instruction given.

**LIST OF DRAWINGS.**

[To be on half imperial paper.]

1. Geometric Problems.
2. Perspective Problems.
3. Orthographic Projection.
4. Model Drawing (in outline).
5. Model shaded with stump.
6. Model shaded with crayon point.
7. Model shaded with sepia or India ink.
8. Elementary Exercises in design, showing principles and mode of procedure.

9. Botanical Analysis.
10. Outliné of Furniture.
11. Outline of Foliage.
12. Outline of Historic Ornament.
13. Illustrations for Teaching Exercises.

The above works having been completed students must pass the following examinations for admission to class A :

1. Plane Geometry.
2. Perspective—parallel and angular.
3. Orthographic Projection.
4. Model Drawing (outline).
5. Model drawing (shaded).
6. Historic Ornament (outline from cast).

These examinations must be passed by all who desire admission to class A. They will be given to those not students of the preparatory class at the beginning of the school-year.



## Class A.

### ELEMENTARY DRAWING.

#### Instructors.

Mr. GEO. H. BARTLETT . . . .	Frechand Drawing, Light and Shade, Historic Ornament, Color and Design.
Mr. W. F. BRACKETT . . . .	Perspective, Geometry, Isometric, Orthographic Projection, Building Construction and Model Drawing.
Mr. CHAS. M. CARTER . . . .	Teaching in the Public Schools.
Mr. A. K. CROSS . . . .	Machine Drawing and Projection of Shadows.

#### LIST OF DRAWINGS.

[To be made on whole or half imperial paper.]

1. Geometric Problems.
2. Perspective Problems.
3. Orthographic Projection.
4. Isometric Drawing.
5. Projection of Shadows.
6. Machine Drawing.
7. Building Construction.
8. Model Drawing shaded in chalk (3 stages).
9. Model Drawing shaded in water color (monochrome).
10. Model Drawing shaded in charcoal (3 stages).
11. Details showing methods of giving black and white values for colors.
12. Model Drawing shaded in crayon.



13. Details of the human figure, from the cast, showing : 1st, blocking-in lines ; 2d, finished outline ; 3d, breadth of shade, indicated by half-tint.
14. Outline of animal form from cast.
15. Ornament from cast, shaded in chalk with point or stump.
16. Ornament from cast, shaded with sepia or India ink.
17. Exercises in Design, showing principles and methods.
18. An original practical design for the flat or round.
19. Analysis of plant and insect form from nature for the purpose of design.
20. Paintings, in sepia and water color, of a flower from nature.
21. Analysis of Styles of Historical Ornament.
22. Specimen Drawing Exercises arranged for Public Schools.

#### EXAMINATION FOR CERTIFICATE.

The above drawings having been submitted and approved, examinations in the following subjects will be held at the end of the year :

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Plane Geometrical Drawing. | 7. Machine Drawing.                 |
| 2. Orthographic Projection.   | 8. Building Construction.           |
| 3. Perspective.               | 9. Historical Ornament.             |
| 4. Model Drawing from Object. | 10. Harmony of Color.               |
| 5. Isometric Projection.      | 11. Teaching in the Public Schools. |
| 6. Projection of Shadows.     |                                     |

## Class B.

### FORM, COLOR AND INDUSTRIAL DESIGN.

ANATOMY AND DRAWING OF THE FIGURE.

ADVANCED PERSPECTIVE.

INDUSTRIAL DESIGN.

HARMONY AND CHEMISTRY OF COLOR, WITH PRACTICE IN WATER  
COLORS AND OILS.

#### *Instructors.*

Miss D. L. HOYT . . . .	Water Color Painting, Chemistry of Colors and History of Painting.
Mr. ALBERT H. MUNSELL . . .	Anatomy, Figure Drawing and Advanced Perspective.
Miss M. A. BAILEY . . . .	Oil Painting, Industrial Design, Harmony of Color.

### LIST OF CERTIFICATE WORKS.

#### Painting in Water Colors.

1. Flower and Foliage from Nature.
2. Group as a Study of Composition and Color.
3. Landscape Studies from Nature.
4. Head from Life.

#### Drawings.

5. Study of Antique Figure from Cast.
6. Skeleton of Same.
7. Muscles of Same.
8. } Studies of Detail and Action from the Living Model.
9. }
10. Perspective ; Shadows, Reflections and Aerial Effects.

#### Painting in Oil.

11. Study in Monochrome from Cast of Human Figure.
12. Group as a Study of Composition and Color.

**Design in Color—Surface Decoration.**

1. Details comprising the human, animal and plant forms for the purpose of design.
2. An original practical design, with the whole or part of the sheet of details applied. This design must be worked to scale.

Students who intend devoting two years to class B must make the sheet of details and original design during the first year, otherwise they will not be allowed to enter the class a second year.

The designs in classes B, C and D must be made in accordance with a proposition to be given at the beginning of each school year.

**EXAMINATIONS FOR CERTIFICATE.****Practice.**

1. Time sketch in oil, of a group of objects and still life.
2. Time sketch, in water colors, of a head from living model.
3. The same of a group.
4. Time sketch, in light and shade, of a cast of human figure.

**Theory.**

5. Paper on the harmony of color, illustrated by sketches.
6. Paper on the origin and chemistry of colors, and on the technical terms used in painting.
7. Paper on the application of surface ornament to industrial purposes.
8. Paper on the principles and styles of the historic schools of painting.
9. Anatomy: Rendering of an antique figure.
10. Perspective, aerial, shadows and reflections.

## Class C.

### CONSTRUCTIVE ARTS.

ARCHITECTURAL DESIGN.

MACHINE DRAWING — CONSTRUCTION AND DESIGN.

DESCRIPTIVE GEOMETRY.

TOPOGRAPHICAL DRAWING.

#### *Instructors.*

Mr. W. F. BRACKETT	.	.	.	Building Construction and Architectural Design.
Mr. A. K. CROSS	.	.	.	Descriptive Geometry, Machine Drawing, Topography, and Ship Draughting.

### LIST OF CERTIFICATE WORKS.

#### Architectural Design and Building Construction.

1. Design for a house or public building, showing plans, elevations, sections and perspective, on one sheet.
2. Structural details, on an enlarged scale, of floors, windows, roof and staircase, of the first subject.
- × 3. Monograph of the ancient, mediæval or modern styles of architecture and ornament.
- × 4. Drawing of a building to scale from actual measurement of the structure ; plans and two geometric elevations.

#### Machine Drawing — Construction and Design.

- × 5. Sheet of screws, and application of screw forms.
- × 6. Sheet of wheels, spur, bevel, cams, eccentrics, gearing.
- × 7. Plan, elevation and section of a locomotive or stationary engine, from copy.
8. Drawing to scale from a drill, pump, or any other machine.



**Descriptive Geometry and Topographical Drawing.**

- X 9. Sheet of illustrations, in outline, from lectures on descriptive geometry. Development of surfaces.
- X 10. Sheet of intersections of solids and projection of shadows; tinted
- 11. Ship draughting. Constructive drawings of a boat or ship.
- X 12. Topographical drawing of an estate from data given; colored.

Three designs must be made by each student in accordance with the given proposition. (See class B.)

**EXAMINATIONS FOR CERTIFICATE.****Architectural Design.**

- 1. Paper on the styles of architecture and ornament illustrated in the monograph.
- 2. Paper on building construction in the several materials used.
- X 3. Design for a building in the style employed for the certificate work, complying with given conditions. Sketches required.
- 4. Design for details of ornament.

**Machine Drawing.**

- X 5. Paper on details of machinery.
- X 6. Drawing to scale from a machine placed in the examination-room.

**Topography, Descriptive Geometry, and Ship Draughting.**

- X 7. Paper on solid geometry and projection of shadows.
- X 8. Map Drawing.
- 9. Draughting a vessel from data.



## Class D.

### SCULPTURE AND DESIGN IN THE ROUND — MODELLING AND CASTING.

*Instructor,* . . . . . MR. ALBERT H. MUNSELL.

#### LIST OF CERTIFICATE WORKS.

##### Ornament and Animal Form.

1. Historic ornament in one style from the cast.
2. Study of ornament from flat copy.
3. A design for a capital, spandrel, panel, rosette, or enriched moulding, executed the full size, for stone, wood, iron, or terra-cotta.
4. Model of flowers or foliage, from nature, in relief, or statuette of an animal, or an animal in relief.

##### Human Figure.

5. Portrait head from nature, life-size, in the round or relief.
6. Bas-relief from antique figure in the round.
7. Anatomical rendering of an antique figure.
8. Model in relief from a print or drawing of a human figure or head.
9. Bust, life-size, from the antique.
10. Study from life, in relief or the round, of the whole figure.

**Casts.**

11. Cast from nature of an arm, hand, foot or mask.
12. Cast from nature of foliage, fruit or flowers.
13. Casts from a piece-mould, sulphur-mould and gelatine-mould, made by the student from his own models or selected works.

Two designs must be made by each student, in accordance with the given proposition (see class B), also a sheet of details of animal form drawn from the flat or round, with the light and shade indicated by half-tint ; these details are to be grotesqued on the same sheet.

**EXAMINATIONS FOR CERTIFICATE.****Theory.**

1. Paper on sculptured ornament of the Historical Schools.
2. Paper on design applied to objects in the round ; viz., plaster, terracotta, wood work (constructional and sculptured), metal (cast and wrought), stone, marble, etc.
3. Paper on sculpture of the human figure.

**Practice.**

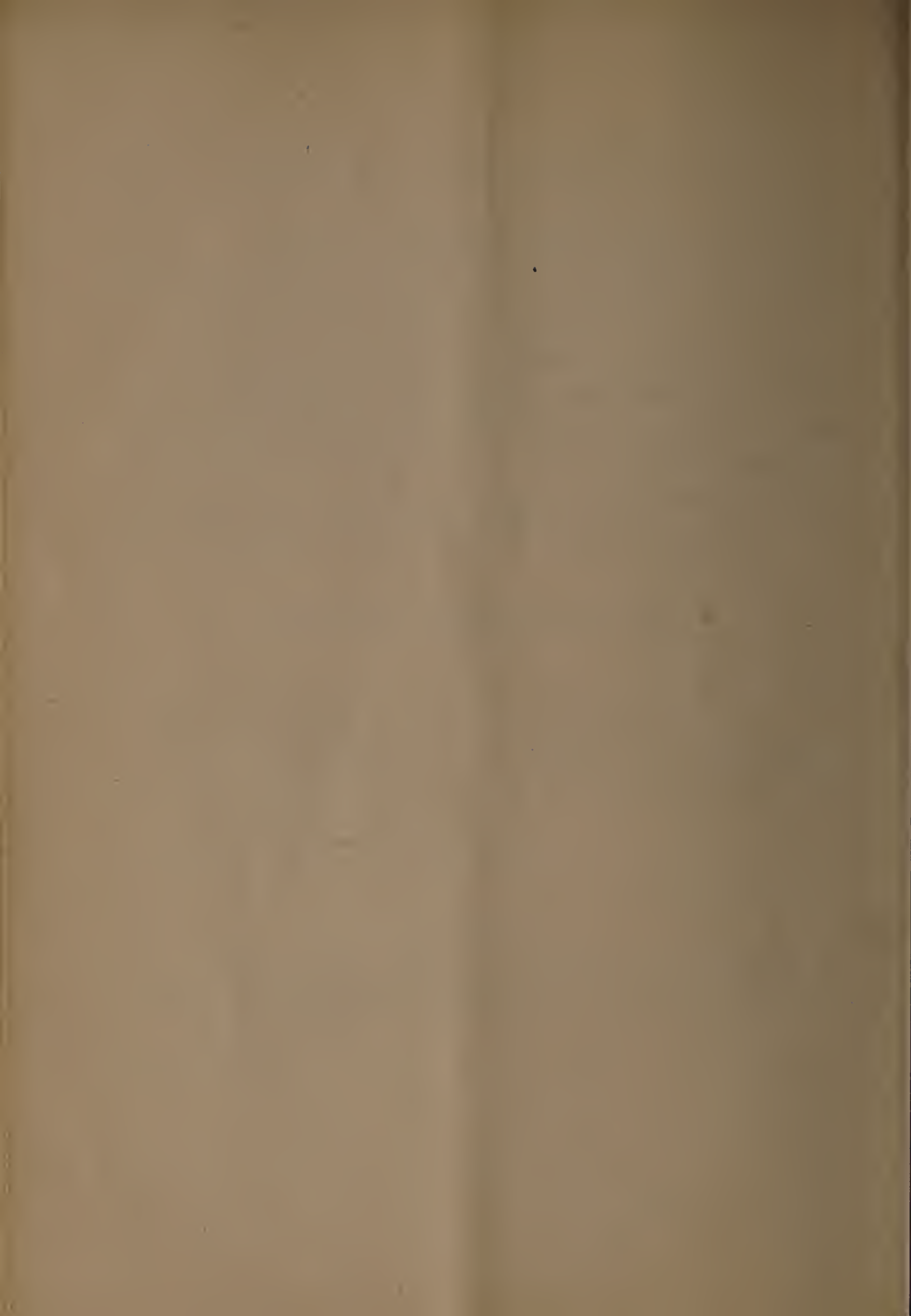
4. To sketch in clay an anatomical rendering of an antique figure.
5. To sketch in clay a relief copy of a piece of ornament from the cast or shaded copy.
6. Cast of same.

7. To model a relief from the entire figure in the round.
8. To model a bust or statuette from the antique or life or shaded copy.
9. To make a charcoal sketch of a head from nature, life-size.

**NOTICE CONCERNING CERTIFICATE WORKS.**

Four of the ten certificate models are to be of imperial size, or in the round, and one is to be cast by the student, and left in the school as a specimen.

The works are to be an example of bas-relief, of mezzo-relief, alto-relief, or the round.











NORMAL ART SCHOOL

OF

MASSACHUSETTS.

1885-6







CIRCULAR

OF THE

Massachusetts Normal Art School,

1645 WASHINGTON STREET, BOSTON,

(LATE THE DEACON HOUSE)

*UNDER THE DIRECTION OF THE STATE BOARD OF EDUCATION.*

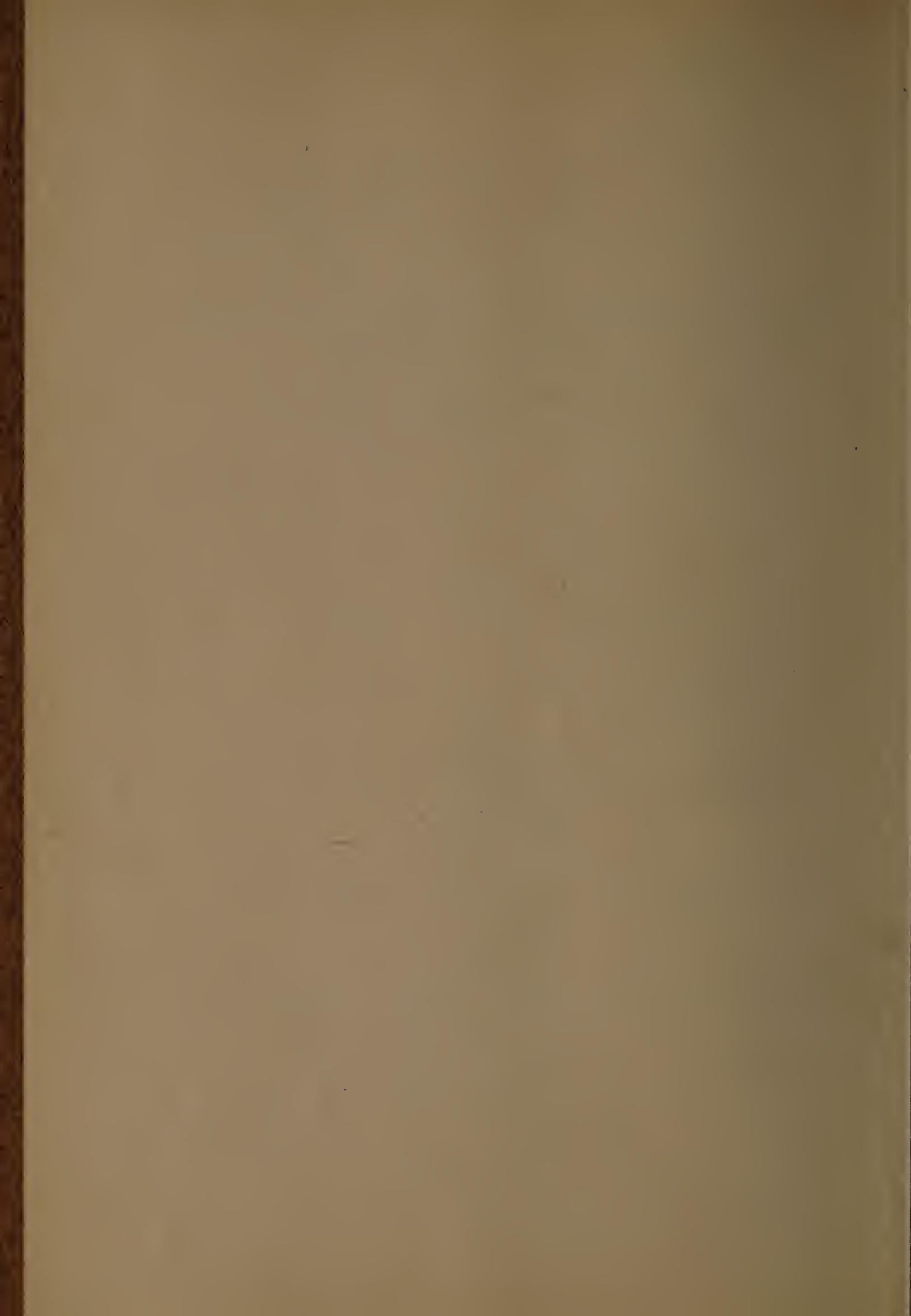
THIRTEENTH YEAR, 1885-86.



BOSTON :

WRIGHT & POTTER PRINTING COMPANY, STATE PRINTERS,  
18 POST OFFICE SQUARE.

1885.



# State Board of Education.

---

HIS EXCELLENCY THE GOVERNOR.

HIS HONOR THE LIEUTENANT-GOVERNOR.

HON. E. B. STODDARD . . . . .	Worcester.
Rev. ALONZO A. MINER, LL.D. . . . .	Boston.
ADMIRAL P. STONE, LL.D. . . . .	Springfield.
Miss ABBY W. MAY . . . . .	Boston.
Hon. M. B. WHITNEY . . . . .	Westfield.
Gen. F. A. WALKER, LL.D. . . . .	Boston.
EDWARD C. CARRIGAN, Esq. . . . .	Boston.
HORACE E. SCUDDER, Esq. . . . .	Cambridge.

Secretary of the Board.

JOHN W. DICKINSON, A.M.

Assistant Secretary and Treasurer.

C. B. TILLINGHAST.

Agents of the Board.

GEORGE A. WALTON, A.M.

GEO. H. MARTIN, A.M.

JOHN T. PRINCE

---

BOARD OF VISITORS, NORMAL ART SCHOOL.

Rev. A. A. MINER, D.D.

HORACE E. SCUDDER, Esq.

Miss ABBY W. MAY.

Gen. F. A. WALKER.

## FACULTY AND OFFICERS OF THE SCHOOL.

MR. GEO. H. BARTLETT . . . . . *Principal.*

## Instructors.

MR. GEO. H. BARTLETT . . . . .	Freehand, Light and Shade Drawing	Class A.
MR. W. F. BRACKETT . . . . .	Architecture and Perspective	Classes A and C.
MR. A. K. CROSS . . . . .	Geometry and Instrumental Drawing	Classes A and C.
MR. CHAS. M. CARTER . . . . .	Drawing in the Public Schools	Class A.
MISS A. M. DAVIS . . . . .	Freehand Drawing	Class A.
MR. ALBERT H. MUNSELL . . . . .	Sculpture and Advanced Perspective	Classes B and D.
MISS D. L. HOYT . . . . .	Painting in Water Color	Class B.
MISS M. A. BAILEY . . . . .	Painting in Oil	Class B.

MISS M. T. JONES, *Curator.*

# List of Students

WHO, HAVING PASSED THE EXAMINATION AND COMPLETED THE CERTIFICATE  
WORKS IN THE SEVERAL CLASSES ENUMERATED BELOW, HAVE  
RECEIVED CERTIFICATES OR THE DIPLOMA.

NOTE. — The numerals under each class signify the year (since 1870) in which the student, whose name is opposite, received the certificates.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Avery, Helen W. . . .	75	79	-	-	- -		Brewster, Geo. T. . . .	79	80	-	-	- -
Anthony, Alfred J. . . .	75	-	-	-	- -		Bartlett, Carrie G. . . .	79	-	-	-	- -
Atwood, Evelyn . . . .	77	-	-	-	- -		Balch, Clara H. . . .	79	-	-	-	- -
Adams, S. Herbert . . . .	78	82	83	83	1883		Ballord, Emma P. . . .	80	82	-	-	- -
Attwill, Lizzie B. . . .	78	79	-	80	- -		Brown, Lucy L. . . .	80	83	-	-	- -
Adams, Chas. L. . . .	79	-	-	-	- -		Bryant, Wallace . . . .	81	83	82	84	1884
Allen, Ralph W. . . .	81	-	82	-	- -		Bragdon, Emmie W. . . .	81	83	-	84	- -
Adams, Dora M. . . .	81	82	-	-	- -		Balch, A. L. . . .	81	-	-	-	- -
Beer, John A. . . .	74	-	-	-	- -		Borland, Eva M. . . .	81	-	-	-	- -
Berry, A. Hun . . . .	74	-	-	-	- -		Blake, H. Landy . . . .	82	-	-	-	- -
Briggs, William . . . .	74	-	78	-	- -		Buck, N. Eveline . . . .	82	82	-	-	- -
Baker, Lucas . . . .	75	75	79	78	1879		Banfield, Gertrude E. . . .	82	-	-	-	- -
Bowler, Emiline F. . . .	75	78	-	80	- -		Ball, Lois E. . . .	83	-	-	-	- -
Barry, Chas. A. . . .	75	75	-	77	- -		Bancroft, Milton H. . . .	83	84	-	-	- -
Brackett, W. F. . . .	75	-	78	81	- -		Bumstead, Mary G. . . .	83	-	-	-	- -
Ball, Fannie E. . . .	75	-	-	-	- -		Blake, Annie E. . . .	84	-	-	-	- -
Benham, Marion L. . . .	75	-	-	-	- -		Bailey, Henry T. . . .	84	-	84	-	- -
Bowditch, Ellen O. . . .	75	-	-	-	- -		Bates, Florence M. . . .	84	-	-	-	- -
Brammer, Joseph . . . .	75	75	-	-	- -		Bates, Eliza J. . . .	84	-	-	-	- -
Bailey, Mercy A. . . .	75	-	-	-	- -		Batchelder, Mary A. . . .	84	-	-	-	- -
Bucklin, Wm. S. . . .	76	-	-	-	- -		Bartlett, M. Lizzie . . . .	84	-	-	-	- -
Booth, Etta E. . . .	76	-	-	-	- -		Byron, Hattie E. . . .	84	-	-	-	- -
Belleville, Hattie M. . . .	76	-	-	-	- -		Carleton, Hannah E. . . .	74	82	-	-	- -
Burrage, Hattie A. . . .	76	80	-	-	- -		Carney, Ellen D. . . .	74	75	-	80	- -
Binney, Anna S. . . .	76	-	-	-	- -		Crawford, James W. . . .	74	-	-	-	- -
Bradbury, Elenora C. . . .	77	78	81	79	1881		Clapp, Mary E. . . .	74	77	-	-	- -
Bartlett, Mary G. . . .	77	79	-	-	- -		Cleaveland, Julia H. . . .	75	-	-	-	- -
Babbitt, Annie M. . . .	77	-	-	-	- -		Colby, Eugene C. . . .	75	77	-	-	- -
Burrison, Henry K. . . .	78	-	-	-	- -		Carter, Walter E. . . .	75	-	-	-	- -
Brown, Henry M. . . .	78	-	-	-	- -		Carter, Chas. M. . . .	76	78	79	79	1879
Birney, Wm. V. . . .	78	79	-	-	- -		Curtis, Annie E. . . .	76	78	-	-	- -
Beals, Willis H. . . .	78	79	-	-	- -		Coburn, Bella . . . .	77	78	-	-	- -
Brown, Maria L. . . .	78	-	-	-	- -		*Cook, Herman E. . . .	77	-	-	-	- -

\* Deceased.



NAME OF STUDENT.	CLASS CERTIFICATE.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Coffin, Clara A. . . .	77	-	-	-	-		Farley, Helen S. . . .	77	80	-	82	-
Cheney, Alice E. . . .	78	80	-	-	-		Fowler, John S. . . .	77	-	79	-	-
Creighton, Hattie R. . .	78	-	-	-	-		Flagg, Linna B. . . .	78	79	-	-	-
Colcord, Clara M. . . .	78	80	-	-	-		Flagg, Hiram P. . . .	78	-	-	-	-
Collins, Frank H. . . .	79	80	-	-	-		Folger, Lizzie M. . . .	78	81	-	-	-
Carleton, Herbert E. . .	79	-	-	-	-		Furbush, M. Josephine .	79	80	-	81	-
Church, George B. . . .	80	-	-	-	-		Fairbanks, Harold W. .	80	-	-	-	-
Cook, Lucy R. . . . .	80	84	-	-	-		Ferson, Earl B. . . .	80	82	81	83	1883
Carleton, Harriet E. . .	80	-	-	-	-		Field, Luisa M. . . .	80	-	-	-	-
Christie, Helen . . . .	80	-	-	-	-		Falk, Albion W. . . .	83	-	-	-	-
Copeland, Edith S. . . .	80	-	-	-	-		Frost, Clara D. . . .	84	-	-	-	-
Chapin, Mary . . . . .	81	-	-	-	-		Fuller, Lucretia J. . .	84	-	-	-	-
Collins, Alice M. . . .	81	-	-	-	-		Goodnough, Walter S. .	74	-	-	-	-
Carter, Mary E. . . . .	81	-	-	-	-		Green, Michael J. . . .	75	-	-	-	-
Church, Wallace B. . . .	82	-	-	-	-		Gardner, Ella L. . . .	76	-	-	-	-
Codding, Julia P. . . .	82	-	-	-	-		Gotte, Jean M. . . . .	76	78	-	-	-
Cross, Anson K. . . . .	82	82	83	-	-		Greenwood, Louis A. .	76	77	-	-	-
Carter, Hannah J. . . .	82	83	-	-	-		Green, Ella C. . . . .	77	78	80	79	1880
Clark, Fannie M. . . .	82	83	-	-	-		Greer, Grace W. . . .	78	-	-	-	-
Cleaves, Florence . . .	83	-	84	-	-		Griggs, Anna F. . . .	78	-	-	-	-
Calrow, Alice B. . . .	84	-	-	-	-		Goddard, Annie F. . .	78	-	-	-	-
Carter, Fannie E. . . .	84	-	-	-	-		Gilman, Mary A. . . .	79	-	-	-	-
Crooks, Fanny E. . . .	84	-	-	-	-		Graves, Albert M. . .	80	81	83	82	1883
Dean, Walter L. . . . .	74	-	-	-	-		Guild, Alice E. . . . .	80	82	-	-	-
Dudley, L. Hannah . . .	74	-	-	-	-		Gardner, Harriet E. .	81	83	-	-	-
Day, Lizzie G. . . . .	75	78	80	81	1881		Gay, Emma J. . . . .	82	83	-	-	-
Dupee, Annie E. . . . .	76	-	-	-	-		Gilam, C. Marguerite .	82	-	-	-	-
Dimock, Elizabeth F. . .	76	-	-	-	-		Gendrot, Julia A. . . .	84	-	-	-	-
Dupee, Octavia G. . . .	76	79	-	-	-		Gendrot, Albert F. . .	84	-	-	-	-
Davis, Annie M. . . . .	77	78	79	78	1879		Gauthier, Julie C. . .	84	-	-	-	-
Dowe, Lemuel A. . . . .	79	-	-	-	-		Hoyt, Deristhe L. . .	74	75	-	77	-
Dyer, Florence A. . . .	80	-	-	-	-		Hooper, Wm. P. . . .	75	-	-	-	-
Dow, Grace L. . . . .	81	-	-	-	-		Hintz, Bertha W. . . .	75	-	-	-	-
Damon, Evelina M. . . .	83	-	-	-	-		Hitchings, Henry . . .	75	-	-	-	-
Dinsmore, Chas. H. . .	83	-	-	-	-		Hollis, Cynthia E. . .	76	77	81	80	1881
Dowse, Fannie C. . . .	83	-	-	-	-		Holmes, Anna C. . . .	76	-	-	-	-
Dutton, Alice M. . . . .	83	-	-	-	-		Hammond, Geo. F. . .	76	-	-	-	-
Dyer, Carrie E. . . . .	83	-	-	-	-		Hill, Louise M. . . . .	76	78	-	-	-
Damon, Nellie L. . . .	84	-	-	-	-		Holmes, Oliver S. . . .	76	-	-	-	-
Emerson, Fannie S. . . .	75	-	-	-	-		Hapgood, Melvin P. .	76	-	-	-	-
Elliott, Geo. B. . . . .	77	-	-	-	-		Howard, Mary . . . . .	76	77	79	79	1879
Edmans, Lena P. . . . .	79	81	-	81	-		Howard, Adelia K. . .	76	-	-	-	-
Everett, Sadie E. . . .	82	-	-	-	-		Halcott, Calista . . .	77	-	-	-	-
England, Wm. A. . . . .	82	84	-	84	-		Holmes, Henry . . . .	77	-	-	-	-
Eaton, Eliza S. . . . .	84	-	-	-	-		Horsford, Gertrude H. .	77	-	-	-	-
Ellinwood, Minnie C. . .	84	-	-	-	-		Howard, G. M. . . . .	77	-	-	-	-
French, Loresta E. . . .	74	-	-	-	-		Huntington, Carrie M. .	77	78	79	80	1880
*Fisher, Maud R. . . .	75	77	-	-	-		Holland, Chas. J. . . .	78	-	-	-	-
Francis, Ellen A. . . .	77	-	-	-	-		Hill, Carrie N. . . . .	79	-	-	-	-

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Hamilton, Edward W. . . .	80	81	82	83	1883		Munsell, Ida E. . . . .	82	84	-	-	-
Hersey, Ada H. . . . .	80	83	-	-	-		MacNeil, Herman A. . .	83	-	84	-	-
Hersey, Clara . . . . .	80	-	-	-	-		Mason, Alice C. . . . .	83	-	-	-	-
Hildreth, Mary E. . . . .	80	-	-	-	-		Mann, Josephine B. . .	84	-	-	-	-
Holden, Alice E. . . . .	80	-	-	-	-		Mendum, Mary E. . . .	84	-	-	-	-
Horton, Helen. . . . .	80	-	-	-	-		MacLauthlin, Rena . .	84	-	-	-	-
Hutchings, Lydia A. . .	80	-	-	-	-		Murray, Henry D. . . .	84	-	-	-	-
Herrick, Lizzie A. . . .	81	84	-	-	-		Matthews, Joseph D. . .	84	-	-	-	-
Hewins, Ellen A. . . . .	81	-	-	-	-		McCarthy, John . . . .	84	-	-	-	-
Harding, Emily E. . . .	83	-	-	-	-		Nolen, Caroline . . . .	74	-	-	-	-
Haskell, Jennie P. . . .	84	-	-	-	-		Norcross, Ella A. . . .	75	77	-	-	-
Johnson, Mary E. . . . .	75	77	-	-	-		Nason, M. E. . . . .	77	-	-	-	-
Joslyn, Mary E. . . . .	75	78	-	-	-		Norton, Dora M. . . . .	79	80	81	-	-
Jepson, George . . . . .	77	-	-	-	-		Needham, Ellie . . . .	81	-	-	-	-
Jennison, Lucia M. . . .	81	-	-	-	-		Noyes, Frank H. . . . .	84	-	-	-	-
Jackson, Jennie M. . . .	83	-	-	-	-		Nye, A. Maud . . . . .	84	-	-	-	-
Jaques, Martha F. . . .	84	-	-	-	-		Oakes, S. Pierce . . . .	75	-	-	-	-
Kingsbury, Edward R. .	76	77	-	-	-		O'Connor, Minnie . . .	79	-	-	-	-
Kaan, Emma W. . . . .	81	84	-	-	-		Pierce, Osborn J. . . .	74	-	-	-	-
Locke, Emma F. . . . .	74	79	79	80	1880		Putnam, Benj. W. . . .	74	75	-	-	-
*Lord, John D. . . . .	74	-	-	-	-		Parker, Frank G. . . . .	75	-	-	-	-
Loring, George A. . . . .	75	-	-	-	-		*Patten, Arthur C. . . .	75	77	76	77	1877
Loring, Susan A. W. . .	76	-	-	-	-		Peabody, Margie G. . .	75	-	-	-	-
Lock, Josephine C. . . .	77	81	-	-	-		Perrin, Julia . . . . .	75	-	-	-	-
Lovering, Ella M. . . . .	79	80	82	81	1882		Perry, Walter S. . . . .	75	-	-	-	-
Lamb, F. Mortimer . . .	80	81	-	82	-		Pitman, Sophia L. . . .	75	76	-	-	-
Langley, Annie W. . . .	80	-	-	-	-		Palmer, Laura E. . . . .	76	-	-	-	-
Little, Abbie H. . . . .	80	82	-	-	-		Plaisted, Lilla M. . . .	76	79	-	78	-
Laughlin, Ada M. . . . .	82	-	-	-	-		Parsons, Caroline L. . .	77	78	-	-	-
Lewis, Jennie F. . . . .	82	84	-	-	-		Parsons, Lydia A. . . .	77	78	-	-	-
Livingston, Cora J. . . .	83	-	-	-	-		Perry, Chas. H. . . . .	77	-	-	-	-
Lawrence, Chas. A. . . .	84	-	-	-	-		Porter, George M. . . .	77	-	-	79	-
Miller, Leslie W. . . . .	74	80	-	-	-		Page, Henrietta . . . .	78	-	-	-	-
Mansfield, Mary . . . . .	75	75	-	-	-		Parker, Emma T. . . . .	78	-	-	-	-
Marble, J. M. . . . .	75	-	-	-	-		Prichard, John A. . . .	73	79	80	79	1880
Mason, Win. A., Jr. . . .	75	80	79	80	1880		Prince, Flora . . . . .	78	-	-	-	-
Marsh, Helen F. . . . .	76	-	-	-	-		Piper, Edwin D. . . . .	79	-	81	-	-
Mansfield, Frank . . . .	77	-	-	-	-		Poole, Jennie A. . . . .	80	-	-	-	-
Moon, Mintie . . . . .	77	79	-	-	-		Poor, Henry W. . . . .	80	81	83	82	1883
Munsell, Albert H. . . .	77	79	80	81	1881		Page, Hollis B. . . . .	81	-	-	-	-
Merrian, Ada A. . . . .	78	-	-	-	-		Pillsbury, E. . . . .	81	-	-	-	-
Molineux, Henrieta . . .	78	-	-	-	-		Pond, Adeline V. . . . .	81	82	-	83	-
Mellen, Laur M. . . . .	79	-	-	-	-		Packard, Fred C. . . . .	82	-	-	-	-
Merritt, Jennie M. . . .	80	82	-	-	-		Page, Edith . . . . .	83	-	-	-	-
Metcalf, Emma F. . . . .	80	-	-	-	-		Peterson, Georgia . . .	83	-	-	-	-
Morris, George E. . . . .	80	81	82	83	1883		Roos, Peter . . . . .	74	-	-	-	-
Meisel, Jennie M. . . . .	81	83	-	-	-		Robbins, Sarah H. . . .	75	-	-	-	-
Mills, Alice . . . . .	81	-	-	-	-		Rose, Eben . . . . .	75	79	79	78	1879
Martin, H. Isabel . . . .	81	82	-	-	-		Roys, Viola G. . . . .	76	-	-	-	-

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Radford, Helen L. . . .	78	-	-	-	--		*Thaxter, Thomas W. . .	77	-	-	-	--
Rich, Delia C. . . .	78	-	-	-	--		Thompson, L. S. . . .	77	-	-	-	--
Richards, W. F. . . .	78	-	-	-	--		Torrey, Wm F. . . .	77	-	-	-	--
Richardson, Theo. J. . .	79	-	-	-	--		Trask, Abbie J. . . .	77	-	-	-	--
Rodman, Warren A. . .	79	-	-	-	--		Thomas, Ella A. . . .	78	-	-	-	--
Richards, Mary F. . . .	80	82	-	-	--		Titus, Lucy E. . . .	80	-	-	-	--
Roberts, Walton H. . . .	81	-	-	-	--		Taylor, George . . . .	81	82	-	-	--
Robinson, Wm. S. . . .	81	83	82	84	1884		Todd, Emma . . . .	81	83	-	84	--
Rice, Abby E. . . .	83	-	84	-	--		*Tibbetts, Arthur L. . .	82	-	-	-	--
Roberts, Gertrude . . .	84	-	-	-	--		Tilton, M. Bessie . . .	82	-	-	-	--
Shaw, Annie F. . . .	75	77	-	-	--		Titus, Sarah A. . . .	83	-	-	-	--
Spalter, A. Maria . . .	75	-	-	-	--		Teed, Hannah J. . . .	84	-	-	-	--
Stewart, Nellie W. . . .	75	77	-	-	--		Vonnoh, Robert W. . . .	77	78	-	79	--
Saunders, Carrie H. . .	76	78	-	-	--		Vance, Carrie M. . . .	82	84	-	-	--
Shepley, Annie B. . . .	76	-	-	-	--		Walker, Sophia A. . . .	75	-	-	-	--
Starbuck, Francis M. . .	76	-	-	-	--		Whiton, Maria E. . . .	75	-	-	-	--
Smith, Elmer B. . . .	77	-	-	-	--		Ware, George Wild . . .	76	-	-	-	--
Sanborn, Arthur H. . . .	78	-	-	-	--		Wellington, Leah M. . .	76	77	-	78	--
Shattuck, Katie E. . . .	79	-	-	79	--		Webster, Clara E. . . .	77	78	80	79	1880
Sherman, Lillie L. . . .	78	-	-	-	--		Webster, Addie L. . . .	77	-	-	-	--
Smith, Elmira G. . . .	78	-	-	-	--		Woodman, George E. . .	77	-	-	-	--
*Stetson, Julia A. . . .	78	79	-	-	--		Watson, Lucretia S. . .	78	-	-	-	--
Storer, Charles . . . .	78	-	-	-	--		Webster, M. Isabel . . .	78	80	-	-	--
Stone, Josephine M. . .	78	78	-	-	--		*Webster, Clara E. . . .	78	-	-	-	--
Simmons, Elizabeth J. . .	78	81	-	-	--		Wellington, Sarah H. . .	78	-	-	-	--
Stacey, John F. . . .	79	79	81	80	1881		Whitney, Lizzie E. . . .	78	79	-	-	--
Smith, Clara M. . . .	80	-	-	-	--		Whitney, Chas. F. . . .	78	-	-	-	--
Smith, May L. . . .	80	81	-	82	--		White, Abbie M. . . .	78	-	-	-	--
Sherry, A. Fannie . . .	80	81	-	-	--		Wild, Mary E. . . .	78	-	-	-	--
Swasey, Josephine F. M.	80	-	-	-	--		Williams, Maria F. . . .	78	-	-	-	--
Scribner, A. W. . . .	81	82	84	83	1884		Wiley, Emma I. S. . . .	78	-	-	-	--
Sears, Kate B. . . .	82	-	-	-	--		Wilson, Clara . . . .	79	80	83	81	1883
Sears, Minnie P. . . .	82	-	-	-	--		Whitcomb, Camilla G. . .	80	81	-	-	--
Sherman, Mertie E. . . .	82	84	-	-	--		White, Sarah L. . . .	80	-	-	-	--
Slafter, Annie R. . . .	82	83	-	-	--		*Withey, Alice A. . . .	80	81	-	82	--
Stetson, M. Josie . . . .	82	-	-	-	--		Woods, Jennie A. . . .	80	82	-	-	--
Sweeney, Thomas E. . . .	82	83	84	-	--		Woods, Florence . . . .	80	-	-	-	--
Sauborn, Lizzie M. . . .	83	-	84	-	--		Walker, Gertrude B. . .	81	-	-	-	--
Skinner, Wm. L. . . .	83	84	-	-	--		Walton, Mary . . . .	81	-	-	-	--
Smith, Fannie H. . . .	83	-	-	-	--		White, Lucy F. . . .	82	-	-	-	--
Spanlding, Alice Maude .	84	-	-	-	--		Whitcomb, Fannie M. . .	82	-	-	-	--
Tufts, Abbie B. . . .	74	-	-	-	--		Wilbar, M. Ella . . . .	82	-	-	-	--
Taylor, Will L. . . .	75	-	-	-	--		Wilson, Lizzie E. . . .	82	-	-	-	--
Tucker, Emily J. . . .	75	-	-	-	--		Woodward, William . . .	83	83	84	-	--
Thompson, Wm. A. . . .	76	-	-	-	--		Wadsworth, Florence L. .	84	-	-	-	--
Taft, Mary F. . . .	77	-	-	-	--		Weymouth, Georgia . . .	84	-	-	-	--

\* Deceased.

# Massachusetts Normal Art School.

---

In view of the great importance of drawing as a branch of education, the Legislature, by an Act passed May 16, 1870, made instruction in this branch obligatory in the public day schools, and required cities and towns containing more than ten thousand inhabitants to make provision for free instruction in industrial drawing to persons over fifteen years of age. This act met with much public favor; but it was soon found that it was impossible to realize satisfactorily the benefits intended by the Act for want of competent teachers. A Resolve was therefore passed by the Legislature providing for the establishment and maintenance of a State Normal Art School.

## DESIGN OF THE SCHOOL.

This school is intended to be a training school for teachers of industrial art. The specific aim at present is to prepare instructors to teach and superintend industrial drawing in the schools of the State. It also aims to provide for high skill in technical drawing, and for industrial art culture.

## LOCATION.

No. 1645 Washington Street, Boston (late the Deacon House).



## CONDITIONS OF ADMISSION.

Candidates for admission must be above sixteen years of age ; must bring a certificate of good moral character from some well-known person in the town in which they reside, and must be able to pass an examination in the common English branches of study, and in free-hand drawing of ornament from copy. (See also preparatory class.) This examination will be held at the beginning of each school year. Tuition is free to students residing within the State and intending to teach drawing in the public schools, but five dollars per term will be charged for incidentals. Tuition for students from without the State is fifty dollars per term. Students requiring instruction in special studies may enter any class without passing through class A, by payment of a fee of fifty dollars per term, and passing an examination.

All fees are payable to the curator at the beginning of each term.

## COURSE OF INSTRUCTION.

The school offers a four years' course (see class A) of training in the mechanical and artistic branches, and their practical application to industry. The work of class A is devoted to elementary drawing ; of class B to form, color and industrial design ; of class C to the constructive arts, and of class D to sculpture and design in the round. Many of the lectures are given during the first term, and cannot be repeated during the second term. For the work of classes A, B or D the student, if desirous, will receive a written statement from the principal. Students having

completed the work of classes A and C, will receive a diploma certifying that they are qualified to teach mechanical and architectural drawing ; those having completed the work of classes A, B and D, one certifying to their qualifications to teach industrial art.

#### CLASS IN THE ART INDUSTRIES AND REPRODUCING ARTS.

This class and the subjects taught in it are elective ; only the students of classes B, C and D are eligible for membership. The class will be instructed by the various teachers, each taking some special art.

By the instruction given, students will be made practically familiar with some of the industrial arts, and for this reason more competent to give instruction in subjects bearing upon the art industries of the State.

#### EXAMINATIONS.

In addition to the regular certificate works, class exercises in the subjects studied during the year must be submitted to show whether the student has acquired the knowledge and manipulative skill necessary for teaching industrial art. If the works pass examination and an average of 65 per cent. in time sketches and test examination has been earned, the student will be entitled to the certificate examination at the end of the school-year. Students failing to pass in any subject may apply again the next year on condition that they again perform all the regular class-work required in that study, but they will not receive any certificate until all the subjects of examination have been passed and all certificate works approved.

#### POST GRADUATE COURSE.

Graduated students may continue the course of study for one year, without payment of fees, on condition that if called upon by the principal they will devote some of their time to teaching in the school.

#### RECOMMENDATIONS FOR APPOINTMENT.

The school takes no responsibility in securing appointments, but applications for teachers will be brought to the attention of such students as the faculty judge best prepared to do the required work.

#### REGULATIONS OF THE SCHOOL.

All materials and apparatus required are to be provided by the students ; no examples for instruction can be removed from the school by them, and any damage done to the property of the school must be paid for by those causing it.

Attendance will be registered daily and absence or tardiness must be explained to the instructors. Excuses will be granted by the principal only upon application made through the instructor of the class.

Every student will be provided with a locker, in which to keep boards and drawing materials. On receiving the key the student must deposit one dollar as a guaranty that the key will be returned ; when this is done the money will be refunded. Keys lost or broken by students must be replaced by them.

The only works allowed to be executed in the school, are those required by the instructors to illustrate their lectures or lessons, and those on the list of certificate works.

Each instructor will require a certain amount of work to be done by the students between lectures which must be regarded as a part of the regular school work.

Any text-book required for use or reference will be indicated by the instructor.

Students may remain in any class for two years, but having failed to complete the required work within that time, will be considered as no longer belonging to it, and can complete this course of study only as special students.

Students who have passed through class A, and whose appointments as teachers of drawing prevent their attendance at the school, upon the payment of the regular fees, and presenting the required works for any succeeding class, and giving satisfactory evidence that they are their own productions, will be treated as if in attendance at the school.

Any certificate work which, in the opinion of the principal, does not show sufficient skill to qualify the student to teach the subject, will be rejected and another one required.

Not less than one work nor more than two works from the set belonging to each student, will be retained as the property of the school.

The student who produces the best set of works in his class will receive a written certificate from the principal testifying to the fact ; these sets will be retained for one year and placed on exhibition in the school.



The discipline of the school is made as simple as possible ; pupils are expected to govern themselves, to do without compulsion what is required, and to refrain from all improprieties of conduct ; those who are unwilling to conform to the known wishes of the teachers are presumed to be improper persons to continue in the school.

All persons presenting themselves for admission to the school are judged to have read these regulations, and the signed application is considered a pledge to abide by them.

#### SCHOOL YEAR.

The school year of 1885-6 will begin the third Monday in September, 1885, and close the last Friday in June, 1886.

The year is divided into two terms : the first comprises the months of September, October, November, December and January ; the second, the months of February, March, April, May and June.

#### SESSIONS.

Instruction is given from 9 A. M. to 1 P. M., and from 2 to 4 P. M., on Monday, Tuesday, Wednesday, Thursday and Friday.

#### VACATIONS AND HOLIDAYS.

Thanksgiving Day and the remainder of the week. Christmas Day to New Year's Day inclusive. Two weeks at the close of the first term. Washington's Birthday, Good Friday, Fast Day. The second week in April and Decoration Day.

## PREPARATORY CLASS.

INSTRUCTORS, SAME AS IN CLASS A.

For the benefit of those persons who have not had the training necessary to qualify them for admission to class A, an elementary or preparatory class has been established, for admission to which an examination in outline drawing from copy will be given. In this class instruction will be given in the following subjects: — Forms of bodies as the basis of drawing; single and combined working views; freehand and instrumental perspective views; elementary drawing and design; instrumental geometry and perspective; a graded course in light and shade, using charcoal, sepia, crayon and water color. One finished drawing in each subject must be made, so arranged as to show the method of instruction given.

## LIST OF DRAWINGS.

[To be on half imperial paper.]

1. Geometric Problems.
2. Perspective Problems.
3. Orthographic Projection.
4. Model Drawing (in outline).
5. Model shaded with stump.
6. Model shaded with crayon point.
7. Model shaded with sepia or India ink.
8. Elementary Exercises in design, showing principles and mode of procedure.

9. Botanical Analysis.
10. Outline of Furniture.
11. Outline of Foliage.
12. Outline of Historic Ornament.
13. Illustrations for Teaching Exercises.

The above works having been completed students must pass the following examinations for admission to class A :

1. Plane Geometry.
2. Perspective — parallel and angular.
3. Orthographic Projection.
4. Model Drawing (outline).
5. Model drawing (shaded).
6. Historic Ornament (outline from cast).

These examinations must be passed by all who desire admission to class A. They will be given to those not students of the preparatory class at the beginning of the school year.

## Class A.

### ELEMENTARY DRAWING.

#### Instructors.

Mr. GEO. H. BARTLETT . . . .	Freehand Drawing, Light and Shade, Historic Ornament, Color and Design.
Mr. W. F. BRACKETT . . . .	Perspective, Geometry, Isometric, Building Construction and Model Drawing.
Mr. CHAS. M. CARTER . . . .	Teaching in the Public Schools.
Mr. A. K. CROSS . . . . .	Orthographic Projection, Projection of Shadows and Machine Drawing.

### LIST OF DRAWINGS.

[To be made on whole or half imperial paper.]

1. Geometric Problems.
2. Perspective Problems.
3. Orthographic Projection.
4. Isometric Drawing.
5. Projection of Shadows.
6. Machine Drawing.
7. Building Construction.
8. Model Drawing shaded in chalk (3 stages).
9. Model Drawing shaded in water color (monochrome).
10. Model Drawing shaded in charcoal (3 stages).
11. Details showing methods of giving black and white values for colors.
12. Model Drawing shaded in crayon.



13. Details of the human figure, from the cast, showing : 1st, blocking-in lines ; 2d, finished outline ; 3d, breadth of shade, indicated by half-tint.
14. Outline of animal form from cast.
15. Ornament from cast, shaded in chalk with point or stump.
16. Ornament from cast, shaded with sepia or India ink.
17. Exercises in Design, showing principles and methods.
18. An original practical design for the flat or round.
19. Analysis of plant and insect form from nature for the purpose of design.
20. Paintings, in sepia and water color, of a flower from nature.
21. Analysis of Styles of Historical Ornament.
22. Specimen Drawing Exercises arranged for Public Schools.

#### EXAMINATION FOR CERTIFICATE.

The above drawings having been submitted and approved, examinations in the following subjects will be held at the end of the year :

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Plane Geometrical Drawing. | 7. Machine Drawing.                 |
| 2. Orthographic Projection.   | 8. Building Construction.           |
| 3. Perspective.               | 9. Historical Ornament.             |
| 4. Model Drawing from Object. | 10. Harmony of Color.               |
| 5. Isometric Projection.      | 11. Teaching in the Public Schools. |
| 6. Projection of Shadows.     |                                     |

## Class B.

### FORM, COLOR AND INDUSTRIAL DESIGN.

ANATOMY AND DRAWING OF THE FIGURE.

ADVANCED PERSPECTIVE.

INDUSTRIAL DESIGN.

HARMONY AND CHEMISTRY OF COLOR, WITH PRACTICE IN WATER  
COLORS AND OILS.

#### *Instructors.*

Miss D. L. HOYT . . . . .	Water Color Painting, Chemistry of Colors and History of Painting.
Mr. ALBERT H. MUNSELL . . . . .	Anatomy, Figure Drawing and Advanced Perspective.
Miss M. A. BAILEY . . . . .	Oil Painting, Industrial Design, Harmony of Color.

### LIST OF CERTIFICATE WORKS.

#### Painting in Water Colors.

1. Flower and Foliage from Nature.
2. Group as a Study of Composition and Color.
3. Sheet, showing progressive stages of water-color painting.
4. Head from Life.

#### Drawings.

5. Study of Antique Figure from Cast.
6. Skeleton of Same.
7. Muscles of Same.
8. } Studies of Detail and Action from the Living Model.
9. }
10. Perspective ; Shadows, Reflections and Aerial Effects.

#### Painting in Oil.

11. Study in Monochrome from Cast of Human Figure.
12. Group as a Study of Composition and Color.

**Design in Color—Surface Decoration.**

1. Details comprising the human, animal and plant forms for the purpose of design.
2. An original practical design, with the whole or part of the sheet of details applied. This design must be worked to scale.

Students who intend devoting two years to class B must make the sheet of details and original design during the first year, otherwise they will not be allowed to enter the class a second year.

The designs in classes B, C and D must be made in accordance with a proposition to be given at the beginning of each school year.

**EXAMINATIONS FOR CERTIFICATE.****Practice.**

1. Time sketch in oil, of a group of objects and still life.
2. Time sketch, in water colors, of a head from living model.
3. The same of a group.
4. Time sketch, in light and shade, of a cast of human figure.

**Theory.**

5. Paper on the harmony of color, illustrated by sketches.
6. Paper on the origin and chemistry of colors, and on the technical terms used in painting.
7. Paper on the application of surface ornament to industrial purposes.
8. Paper on the principles and styles of the historic schools of painting.
9. Anatomy: Rendering of an antique figure.
10. Perspective, aerial, shadows and reflections.

## Class C.

### CONSTRUCTIVE ARTS.

ARCHITECTURAL DESIGN.

MACHINE DRAWING—CONSTRUCTION AND DESIGN.

DESCRIPTIVE GEOMETRY.

TOPOGRAPHICAL DRAWING.

#### *Instructors.*

Mr. W. F. BRACKETT	.	.	.	Building Construction and Architectural Design.
Mr. A. K. CROSS	.	.	.	Descriptive Geometry, Machine Drawing, Topography and Ship Draughting.

### LIST OF CERTIFICATE WORKS.

#### Architectural Design and Building Construction.

1. Design for a house or public building, showing plans, elevations, sections and perspective, on one sheet.
2. Structural details, on an enlarged scale, of floors, windows, roof and staircase, of the first subject.
3. Monograph of the ancient, mediæval or modern styles of architecture and ornament.
4. Drawing of a building to scale from actual measurement of the structure ; plans and two geometric elevations.

#### Machine Drawing—Construction and Design.

5. Sheet of screws, and application of screw forms.
6. Sheet of wheels, spur, bevel, cams, eccentrics, gearing.
7. Plan, elevation and section of a locomotive or stationary engine, from copy.
8. Drawing to scale from a drill, pump, or any other machine.



**Descriptive Geometry and Topographical Drawing.**

9. Sheet of illustrations, in outline, from lectures on descriptive geometry. Development of surfaces.
10. Sheet of intersections of solids and projection of shadows ; tinted.
11. Ship draughting. Constructive drawings of a boat or ship.
12. Topographical drawing of an estate from data given ; colored.

Three designs must be made by each student in accordance with the given proposition. (See class B.)

**EXAMINATIONS FOR CERTIFICATE.****Architectural Design.**

1. Paper on the styles of architecture and ornament illustrated in the monograph.
2. Paper on building construction in the several materials used.
3. Design for a building in the style employed for the certificate work, complying with given conditions. Sketches required.
4. Design for details of ornament.

**Machine Drawing.**

5. Paper on details of machinery.
6. Drawing to scale from a machine placed in the examination room.

**Topography, Descriptive Geometry, and Ship Draughting.**

7. Paper on solid geometry and projection of shadows.
8. Map Drawing.
9. Draughting a vessel from data.

## Glass D.

---

### SCULPTURE AND DESIGN IN THE ROUND — MODELLING AND CASTING.

*Instructor,* . . . . . Mr. ALBERT H. MUNSELL.

#### LIST OF CERTIFICATE WORKS.

##### Ornament and Animal Form.

1. Historic ornament in one style from the cast.
2. Study of ornament from flat copy.
3. A design for a capital, spandrel, panel, rosette, or enriched moulding, executed the full size, for stone, wood, iron, or terra-cotta.
4. Model of flowers or foliage, from nature, in relief, or statuette of an animal, or an animal in relief.

##### Human Figure.

5. Portrait head from nature, life-size, in the round or relief.
6. Bas-relief from antique figure in the round.
7. Anatomical rendering of an antique figure.
8. Model in relief from a print or drawing of a human figure or head.
9. Bust, life-size, from the antique.
10. Study from life, in relief or the round, of the whole figure.

**Casts.**

11. Cast from nature of an arm, hand, foot or mask.
12. Cast from nature of foliage, fruit or flowers.
13. Casts from a piece-mould, sulphur-mould and gelatine-mould, made by the student from his own models or selected works.

Two designs must be made by each student, in accordance with the given proposition (see class B), also a sheet of details of animal form drawn from the flat or round, with the light and shade indicated by half-tint ; these details are to be grotesqued on the same sheet.

**EXAMINATIONS FOR CERTIFICATE.****Theory.**

1. Paper on sculptured ornament of the Historical Schools.
2. Paper on design applied to objects in the round ; viz., plaster, terracotta, wood work (constructional and sculptured), metal (cast and wrought), stone, marble, etc.
3. Paper on sculpture of the human figure.

**Practice.**

4. To sketch in clay an anatomical rendering of an antique figure.
5. To sketch in clay a relief copy of a piece or ornament from the cast or shaded copy.
6. Cast of same.

7. To model a relief from the entire figure in the round.
8. To model a bust or statuette from the antique or life or shaded copy.
9. To make a charcoal sketch of a head from nature, life-size.

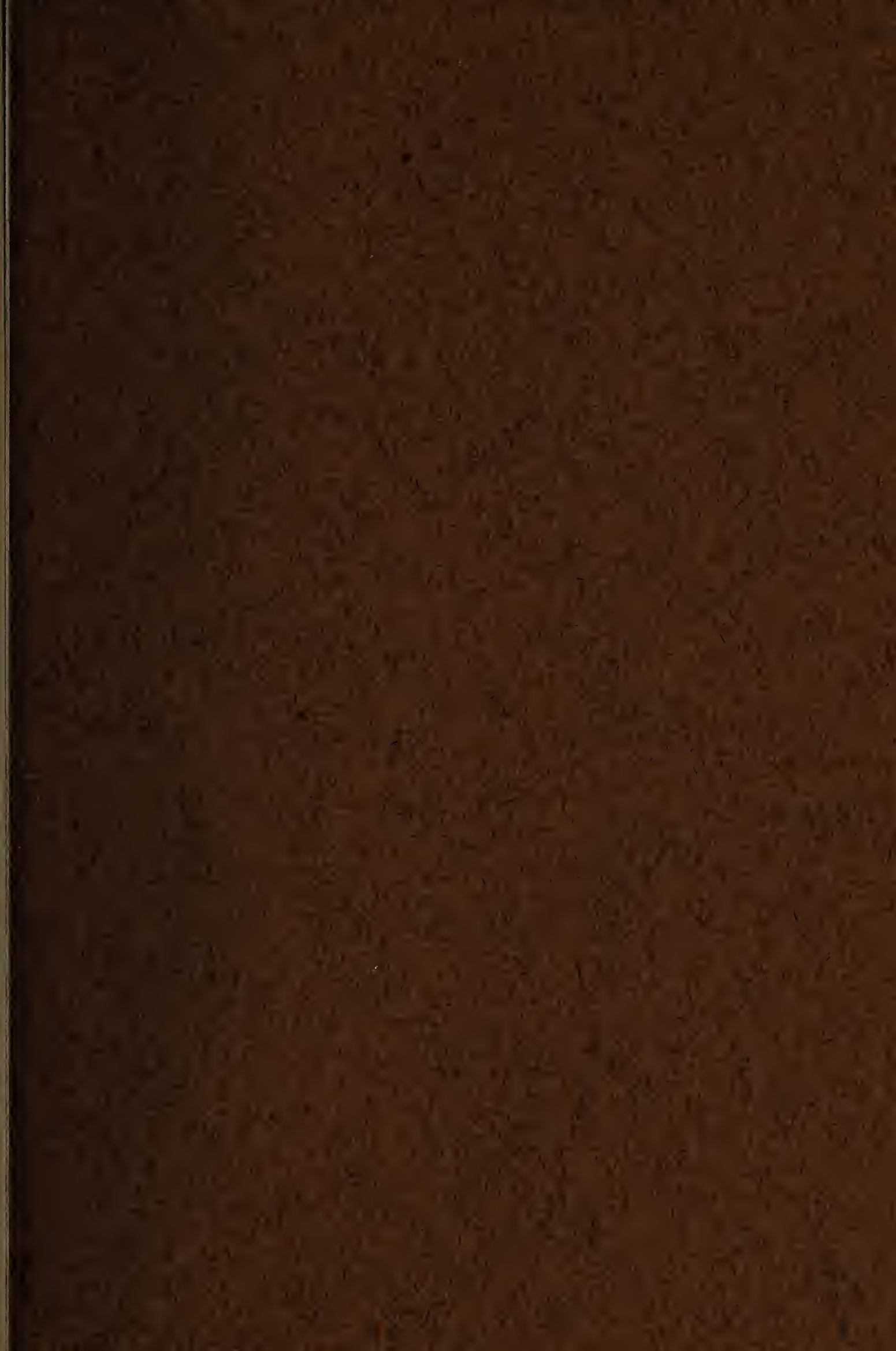
#### NOTICE CONCERNING CERTIFICATE WORKS.

Four of the ten certificate models are to be of imperial size, or in the round, and one is to be cast by the student, and left in the school as a specimen.

The works are to be an example of bas-relief. of mezzo relief, alto-relief, or the round.















CIRCULAR  
OF THE  
Massachusetts Normal Art School,

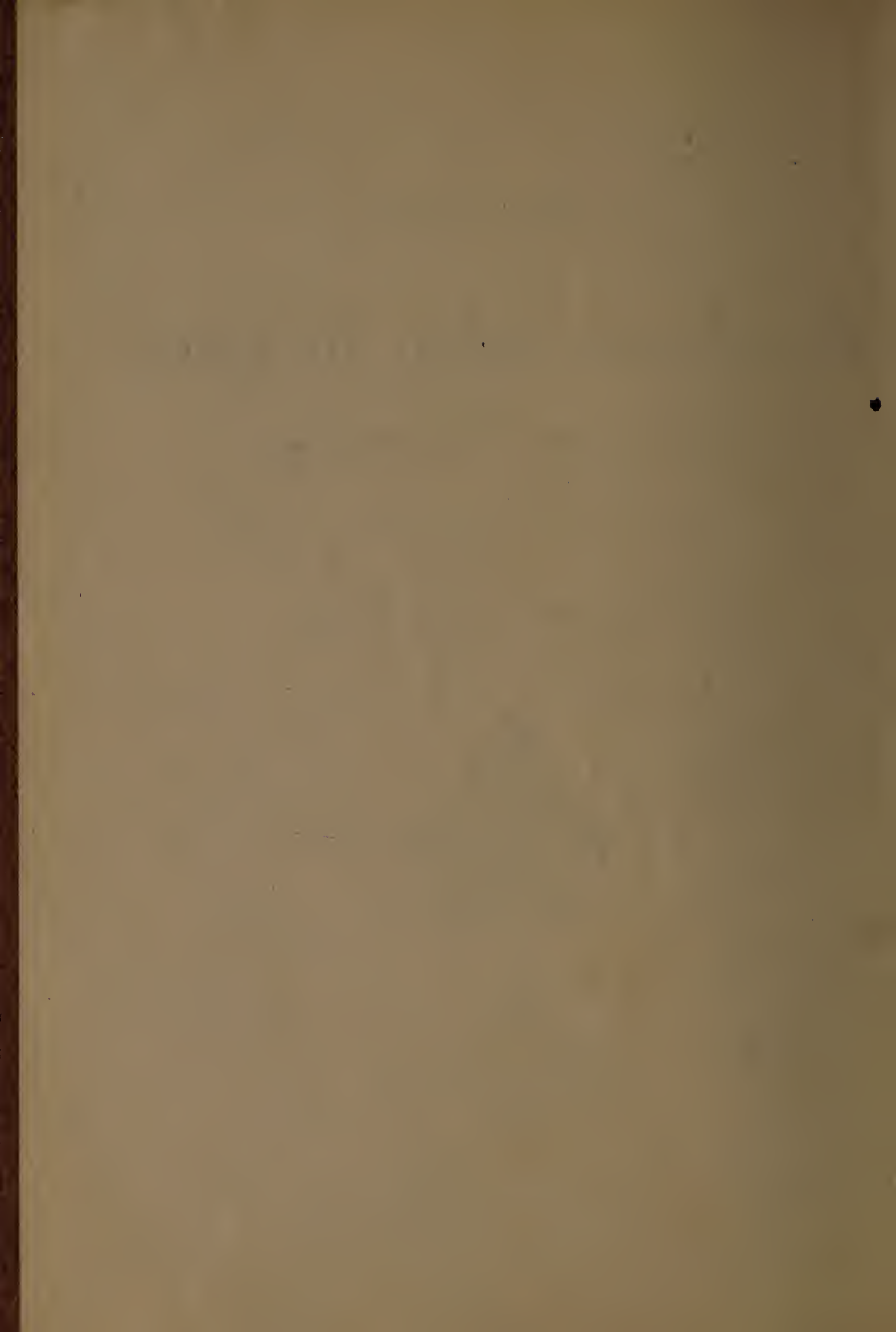
CORNER OF NEWBURY AND EXETER STS.,

*UNDER THE DIRECTION OF THE STATE BOARD OF EDUCATION.*

FOURTEENTH YEAR, 1886-87.



BOSTON :  
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,  
18 POST OFFICE SQUARE.  
1886.



# State Board of Education.

---

HIS EXCELLENCY THE GOVERNOR.  
HIS HONOR THE LIEUTENANT-GOVERNOR.

Hon. E. B. STODDARD . . . . .	Worcester.
Rev. ALONZO A. MINER, LL.D. . . . .	Boston.
ADMIRAL P. STONE, LL.D. . . . .	Springfield.
Miss ABBY W. MAY . . . . .	Boston.
Hon. M. B. WHITNEY . . . . .	Westfield.
Gen. F. A. WALKER, LL.D. . . . .	Boston.
EDWARD C. CARRIGAN, Esq. . . . .	Boston.
HORACE E. SCUDDER, Esq. . . . .	Cambridge.

Secretary of the Board.  
JOHN W. DICKINSON, A.M.

Assistant Secretary and Treasurer.  
C. B. TILLINGHAST.

Agents of the Board.  
GEORGE A. WALTON, A.M.      GEO. H. MARTIN, A M.      JOHN T. PRINCE.  
CHARLES M. CARTER, Agent for the Promotion of Industrial Drawing.

---

BOARD OF VISITORS, NORMAL ART SCHOOL.  
Rev. A. A. MINER, D.D.      Miss ABBY W. MAY.      Gen. F. A. WALKER.  
HORACE E. SCUDDER, Esq.



## FACULTY AND OFFICERS OF THE SCHOOL.

Mr. GEO. H. BARTLETT . . . . . *Principal.*  
 JOHN W. DICKINSON, A.M., *Lecturer,* . . . . . Principles and Methods of Teaching.

## Instructors.

Mr. GEO. H. BARTLETT . . . . .	Freehand, Light and Shade Drawing	Classes A and B.
Mr. W. F. BRACKETT . . . . .	Architecture and Perspective	Classes A and C.
Mr. A. K. CROSS . . . . .	Geometry and Instrumental Drawing	Classes A and C.
Mr. CHAS. M. CARTER . . . . .	Drawing in the Public Schools	Class A.
Miss A. M. DAVIS . . . . .	Freehand Drawing	Class A.
Mr. ALBERT H. MUNSELL . . . . .	Sculpture and Advanced Perspective	Classes B and D.
Mr. THOMAS E. SWEENEY . . . . .	Sculpture and Anatomy	Classes B and D.
Miss D. L. HOYT . . . . .	Painting in Water Color	Class B.
Miss M. A. BAILEY . . . . .	Painting in Oil	Class B.

Miss M. T. JONES, *Curator.*

# List of Students

WHO, HAVING PASSED THE EXAMINATION AND COMPLETED THE CERTIFICATE WORKS IN THE SEVERAL CLASSES ENUMERATED BELOW, HAVE RECEIVED CERTIFICATES OR THE DIPLOMA.

NOTE. — The numerals under each class signify the year (since 1870) in which the student, whose name is opposite, received the certificates.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas
	A.	B.	C.	D.				A.	B.	C.	D.	
Avery, Helen W. . . .	75	79	-	-	-		Birney, Wm. V. . . .	78	79	-	-	-
*Anthony, Alfred J. . .	75	-	-	-	-		Beals, Willis H. . . .	78	79	-	-	-
Atwood, Evelyn . . . .	77	-	-	-	-		Brown, Maria L. . . .	78	-	-	-	-
Adams, S. Herbert . . .	78	82	83	83	1883		Brewster, Geo. T. . . .	79	80	-	-	-
Attwill, Lizzie B. . . .	78	79	-	80	-		Bartlett, Carrie G. . .	79	-	-	-	-
Adams, Chas. L. . . .	79	-	-	-	-		Balch, Clara H. . . .	79	-	-	-	-
Allen, Ralph W. . . .	81	-	82	-	-		Ballord, Emma P. . . .	80	82	-	-	-
Adams, Dora M. . . .	81	82	-	-	-		Brown, Lucy L. . . .	80	83	-	-	-
Andros, Annie H. . . .	85	-	-	-	-		Bryant, Wallace . . . .	81	83	82	84	1884
Austin, Alice . . . .	85	86	-	-	-		Bragdon, Emmie W. . .	81	83	-	84	-
Alden, Mary S. . . .	86	-	-	-	-		Balch, A. L. . . . .	81	-	-	-	-
Beer, John A. . . . .	74	-	-	-	-		Borland, Eva M. . . .	81	-	-	-	-
Berry, A. Hun . . . .	74	-	-	-	-		Blake, H. Landy . . . .	82	-	-	-	-
Briggs, William . . . .	74	-	78	-	-		Buck, N. Eveline . . .	82	82	-	-	-
Baker, Lucas . . . .	75	75	79	78	1879		Banfield, Gertrude E. .	82	-	-	-	-
Bowler, Emiline F. . .	75	78	-	80	-		Ball, Lois E. . . . .	83	-	-	-	-
Barry, Chas. A. . . .	75	75	-	77	-		Bancroft, Milton H. . .	83	84	85	86	1886
Brackett, W. F. . . .	75	-	78	81	-		Bumstead, Mary G. . .	83	-	-	-	-
Ball, Fannie E. . . .	75	-	-	-	-		Blake, Annie E. . . .	84	86	-	-	-
Benham, Marion L. . .	75	-	-	-	-		Bailey, Henry T. . . .	84	85	84	-	-
Bowditch, Ellen O. . .	75	-	-	-	-		Bates, Florence M. . .	84	-	-	-	-
Brammer, Joseph. . . .	75	75	-	-	-		Bates, Eliza J. . . . .	84	-	-	-	-
Bailey, Mercy A. . . .	75	-	-	-	-		Batchelder, Mary A. . .	84	85	-	-	-
Bucklin, Wm S. . . .	76	-	-	-	-		Bartlett, M. Lizzie . .	84	-	-	-	-
Booth, Etta E. . . .	76	-	-	-	-		Byron, Hattie E. . . .	84	-	-	-	-
Belleville, Hattie M. .	76	-	-	-	-		Bartlett, Ethel G. . . .	85	-	-	-	-
Burrage, Hattie A. . .	76	80	-	-	-		*Bathrick, Alice R. . .	85	-	-	-	-
Binney, Anna S. . . .	76	-	-	-	-		Bailey, Cora L. . . . .	86	-	-	-	-
Bradbury, Elenora C. .	77	78	81	79	1881		Blaisdell, Anna K. . .	86	-	-	-	-
Bartlett, Mary G. . . .	77	79	-	-	-		Carleton, Hannah E. . .	74	82	-	-	-
Babbitt, Annie M. . .	77	-	-	-	-		Carney, Ellen D. . . .	74	75	-	80	-
Burrison, Henry K. . .	78	-	-	-	-		Crawford, James W. . .	74	-	-	-	-
Brown, Henry M. . . .	78	-	-	-	-		Clapp, Mary E. . . . .	74	77	-	-	-

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A	B.	C.	D.				A.	B.	C.	D.	
Cleaveland, Julia H. . .	75	-	-	-	--		Dinsmore, Chas. H. . .	83	-	-	-	--
Colby, Eugene C. . .	75	77	-	-	--		Dowse, Fannie C. . .	83	-	-	-	--
Carter, Walter E. . .	75	-	-	-	--		Dutton, Alice M. . .	83	85	-	-	--
Carter, Chas. M. . .	76	78	79	79	1879		Dyer, Carrie E. . .	83	-	-	-	--
*Curtis, Annie E. . .	76	78	-	-	--		Damon, Nellie L. . .	84	-	-	-	--
Coburn, Bella . . .	77	78	-	-	--		Dodge, Charles C. . .	85	-	-	-	--
*Cook, Herman E. . .	77	-	-	-	--		Dix, Martha M. . .	86	-	-	-	--
Coffin, Clara A. . .	77	-	-	-	--		Dalrymple, Amy F. . .	86	-	-	-	--
Cheney, Alice E. . .	78	80	-	-	--		Emerson, Fannie S. . .	75	-	-	-	--
Creighton, Hattie R. . .	78	-	-	-	--		Elliott, Geo. B. . .	77	-	-	-	--
Colcord, Clara M. . .	78	80	-	-	--		Edmans, Lena P. . .	79	81	-	81	--
Collins, Frank H. . .	79	80	-	-	--		Everett, Sadie E. . .	82	-	-	-	--
Carlton, Herbert E. . .	79	-	-	-	--		England, Wm. A. . .	82	84	-	84	--
Church, George B. . .	80	-	-	-	--		Eaton, Eliza S. . .	84	-	-	-	--
Cook, Lucy R. . .	80	84	-	-	--		Ellinwood, Minnie C. . .	84	86	-	-	--
Carleton, Harriet E. . .	80	-	-	-	--		Emmins, Charlotte J. . .	83	86	-	-	--
Christie, Helen . . .	80	-	-	-	--		Evans, Gertrude M. . .	85	-	-	-	--
Copeland, Edith S. . .	80	-	-	-	--		Edminster, C. Frank	86	-	86	-	--
Chapin, Mary . . .	81	-	-	-	--		French, Loresta E. . .	74	-	-	-	--
Collins, Alice M. . .	81	-	-	-	--		*Fisher, Maud R. . .	75	77	-	-	--
Carter, Mary E. . .	81	-	-	-	--		Francis, Ellen A. . .	77	-	-	-	--
Church, Wallace B. . .	82	-	-	-	--		Farley, Helen S. . .	77	80	-	82	--
Codding, Julia P. . .	82	-	-	-	--		Fowler, John S. . .	77	-	79	-	--
Cross, Anson K. . .	82	82	83	-	--		Flagg, Lanna B. . .	78	79	-	-	--
Carter, Hannah J. . .	82	83	-	-	--		Flagg, Hiram P. . .	8	-	-	-	--
Clark, Fannie M. . .	82	83	-	-	--		Folger, Lizzie M. . .	78	81	-	-	--
Cleaves, Florence . .	83	85	84	86	1886		Furbush, M. Josephine	79	80	-	81	--
Calrow, Alice B. . .	84	85	-	-	--		Fairbanks, Harold W. . .	80	-	-	-	--
Carter, Fannie E. . .	84	-	-	-	--		Ferson, Earl B. . .	80	82	81	83	1883
Crooks, Fanny E. . .	84	-	-	-	--		Field, Luisa M. . .	80	-	-	-	--
Carr, Mary E. . .	85	-	-	-	--		Falk, Albion W. . .	83	-	-	-	--
Chadwick, Josephine T.	85	86	-	-	--		Frost, Clara D. . .	84	-	-	-	--
Clark, Florence G. . .	85	-	-	-	--		Fuller, Lucretia A. . .	84	86	-	-	--
Carr, Mary E. . .	86	-	-	-	--		Friend, Nannie S. . .	85	-	-	-	--
Condon, Harriet D. . .	86	-	-	-	--		Fifield, Alice M. . .	85	-	-	-	--
Collins, Ida . . .	86	-	-	-	--		French, Fanny T. . .	86	-	-	-	--
Coggeshall, Elizabeth C.	86	-	-	-	--		Fleming, A. Barbara	86	-	-	-	--
Calderwood, James . .	86	-	-	-	--		Frizzell, Joseph A. . .	86	-	-	-	--
Dean, Walter L. . .	74	-	-	-	--		Goodnough, Walter S. . .	74	-	-	-	--
Dudley, L. Hannah . .	74	-	-	-	--		Green, Michael J. . .	75	-	-	-	--
Day, Lizzie G. . .	75	78	80	81	1881		Gardner, Ella L. . .	76	-	-	-	--
Dupee, Anna E. . .	76	-	-	-	--		Gotte, Jean M. . .	76	78	-	-	--
Dimock, Elizabeth F. . .	76	-	-	-	--		Greenwood, Louis A. . .	76	77	-	-	--
Dupee, Octavia G. . .	76	79	-	-	--		Green, Ella C. . .	77	78	80	79	1880
Davis, Annie M. . .	77	78	79	78	1879		Greer, Grace W. . .	78	-	-	-	--
Dowe, Lemuel A. . .	79	-	-	-	--		Griggs, Anna F. . .	78	-	-	-	--
Dyer, Florence A. . .	80	-	-	-	--		Goddard, Annie F. . .	78	-	-	-	--
Dow, Grace L. . .	81	-	-	-	--		Gilman, Mary A. . .	79	-	-	-	--
Damon, Evelina M. . .	83	85	-	-	--		Graves, Albert M. . .	80	81	83	82	1883

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Guild, Alice E. . . .	80	82	-	-	--		Joslyn, Mary E. . . .	75	78	-	-	--
Gardner, Harriet E. . .	81	83	-	-	--		Jepson, George . . .	77	-	-	-	--
Gay, Emma J. . . . .	82	83	-	-	--		Jennison, Lucia M. . .	81	-	-	-	--
Gilan, C. Marguerite . .	82	-	-	-	--		Jackson, Jennie M. . .	83	-	-	-	--
Gendrot, Julia A. . . .	84	-	-	-	--		Judkins, William L. . .	85	-	86	-	--
Gendrot, Albert F. . . .	84	-	-	-	--		Jaques, Martha F. . . .	85	86	-	-	--
Gauthier, Julie C. . . .	84	-	-	-	--		Jewett, Sarah E. . . .	86	-	-	-	--
Gregg, Jennie W. . . .	85	86	-	-	--		Kingsbury, Edward R. .	76	77	-	-	--
Goddard, Mina K. . . .	85	86	-	-	--		Kaan, Emma W. . . . .	81	84	-	85	--
Gilman, Alice C. C. . . .	86	-	-	-	--		Kimball, Emily . . . .	85	-	-	-	--
Guenther, Rudolph . . .	86	-	-	-	--		Kendall, Charlotte A. .	85	86	-	-	--
Hoyt, Deristhe L. . . .	74	75	-	77	--		Locke, Emma F. . . . .	74	79	79	80	1880
Hooper, Wm. P. . . . .	75	-	-	-	--		*Lord, John D. . . . .	74	-	-	-	--
Hintz, Bertha W. . . .	75	-	-	-	--		Loring, George A. . . .	75	-	-	-	--
Hitchings, Henry . . . .	75	-	-	-	--		Loring, Susan A. W. . .	76	-	-	-	--
Hollis, Cynthia E. . . .	76	77	81	80	1881		Lock, Josephine C. . . .	77	81	-	-	--
Holmes, Anna C. . . . .	76	-	-	-	--		Lovering, Ella M. . . .	79	80	82	81	1882
Hammond, Geo. F. . . .	76	-	-	-	--		Lamb, F. Mortimer . . .	80	81	-	82	--
Hill, Louise M. . . . .	76	78	-	-	--		Langley, Annie W. . . .	80	-	-	-	--
Holmes, Oliver S. . . .	76	-	-	-	--		Little, Abbie H. . . . .	80	82	-	-	--
Hapgood, Melvin P. . . .	76	-	-	-	--		Laughlin, Ada M. . . .	82	-	-	-	--
Heward, Mary . . . . .	76	77	79	79	1879		Lewis, Jennie F. . . . .	82	84	86	85	1886
Howard, Adelia K. . . .	76	-	-	-	--		Livingston, Cora J. . . .	83	-	-	-	--
Halcott, Calista . . . .	77	-	-	-	--		Lawrence, Chas. A. . . .	84	-	-	-	--
Holmes, Henry . . . . .	77	-	-	-	--		Miller, Leslie W. . . .	74	80	-	-	--
Horsford, Gertrude H. .	77	-	-	-	--		Mansfield, Mary . . . .	75	75	-	-	--
Howard, G. M. . . . .	77	-	-	-	--		Marble, J. M. . . . .	75	-	-	-	--
Huntington, Carrie M. .	77	78	79	80	1880		Mason, Wm. A. Jr. . . .	75	80	79	80	1880
Holland, Chas. J. . . .	78	-	-	-	--		Marsh, Helen F. . . . .	76	-	-	-	--
Hill, Carrie N. . . . .	79	-	-	-	--		Mansfield, Frank . . . .	77	-	-	-	--
Hamilton, Edward W. . .	80	81	82	83	1883		Moon, Mintie . . . . .	77	79	-	-	--
Hersey, Ada H. . . . .	80	83	-	-	--		Munsell, Albert H. . . .	77	79	80	81	1881
Hersey, Clara . . . . .	80	-	-	-	--		Merrian, Ada A. . . . .	78	-	-	-	--
Hildreth, Mary E. . . .	80	-	-	-	--		Molineux, Henrieta . . .	78	-	-	-	--
Holden, Alice E. . . . .	80	-	-	-	--		Mellen, Laur M. . . . .	79	-	-	-	--
Horton, Helen . . . . .	80	-	-	-	--		Merritt, Jennie M. . . .	80	82	-	-	--
Hutchings, Lydia A. . .	80	-	-	-	--		Metcalf, Emma F. . . .	80	-	-	-	--
Herrick, Lizzie A. . . .	81	84	-	-	--		Morris, George E. . . .	80	81	82	83	1883
Hewins, Ellen A. . . . .	81	-	-	-	--		Meisel, Jennie M. . . .	81	83	-	-	--
Harding, Emily E. . . .	83	85	-	-	--		Mills, Alice . . . . .	81	-	-	-	--
Haskell, Jennie P. . . .	84	-	-	-	--		Martin, H. Isabel . . . .	81	82	-	-	--
Harlow, Beatrice B. . .	85	-	-	-	--		Munsell, Ida E. . . . .	82	84	-	85	--
Hurlbut, Martha A. . . .	85	-	-	-	--		MacNeil, Herman A. . . .	83	85	84	86	1886
Hammond, Mary A. . . .	85	-	-	-	--		Mason, Alice C. . . . .	83	-	-	-	--
Hersey, Fred W. . . . .	85	-	-	-	--		Mann, Josephine B. . . .	84	-	-	-	--
Hurlbut, Mary A. . . . .	86	-	-	-	--		Mendum, Mary E. . . .	84	-	-	-	--
Howard, Bessie B. . . .	86	-	-	-	--		MacLauthlin, Rena . . .	84	86	-	-	--
Halden, John C. . . . .	86	-	-	-	--		Murray, Henry D. . . .	84	-	86	-	--
Johnson, Mary E. . . .	75	77	-	-	--		Matthews, Joseph D. . .	84	-	-	-	--

\* Deceased.



NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
McCarthy, John . . . .	84	-	-	-	-		Roos, Peter . . . .	74	-	-	-	-
Mendum, Charlotte E. .	85	-	-	-	-		Robbins, Sarah H. . .	75	-	-	-	-
Mosinan, Fidle E. . . .	85	-	86	-	-		Rose, Eben . . . . .	75	79	79	78	1879
Meyer, Marie L. . . . .	85	-	-	-	-		Roys, Viola G. . . . .	76	-	-	-	-
McIntosh, Fannie C. . .	85	-	-	-	-		Radford, Helen L. . .	78	-	-	-	-
MacWhorter, Jennie W.	85	-	-	-	-		Rich, Delia C. . . . .	78	-	-	-	-
Murphy, May A. . . . .	85	86	-	-	-		Richards, W. F. . . .	78	-	-	-	-
Nolen, Caroline . . . .	74	-	-	-	-		Richardson, Theo J. .	79	-	-	-	-
Norcross, Ella A. . . .	75	77	-	-	-		Rodman, Warren A. .	79	-	-	-	-
Nason, M. E. . . . .	77	-	-	-	-		Richards, Mary F. . .	80	82	-	-	-
Norton, Dora M. . . . .	79	80	81	-	-		Roberts, Walton H. . .	81	-	-	-	-
Needham, Ellie . . . .	81	-	-	-	-		Robinson, Wm. S. . . .	81	83	82	84	1884
Noyes, Frank H. . . . .	84	86	86	-	-		Rice, Abby E. . . . .	83	-	84	-	-
Nye, A. Maud . . . . .	84	85	86	-	-		Roberts, Gertrude . .	84	-	85	-	-
Norton, Susie M. . . . .	85	86	-	-	-		Rowland, Emma E. . .	85	-	-	-	-
Norwood, Annie F. . . .	86	-	-	-	-		Rowell, B. Howard . .	86	-	-	-	-
Oakes, S. Pierce . . . .	75	-	-	-	-		Shaw, Annie F. . . . .	75	77	-	-	-
O'Connor, Minnie . . . .	79	-	-	-	-		Spalter, A. Maria, . .	75	-	-	-	-
O'Brien, Arthur F. . . .	85	-	-	-	-		Stewart, Nellie W. . .	75	77	-	-	-
Pierce, Osborn J. . . . .	74	-	-	-	-		Saunders, Carrie H. . .	76	78	-	-	-
Putnam, Benj. W. . . . .	74	75	-	-	-		Shepley, Annie B. . .	76	-	-	-	-
Parker, Frank G. . . . .	75	-	-	-	-		Starbuck, Francis M. .	76	-	-	-	-
*Patten, Arthur C. . . .	75	77	76	77	1877		Smith, Elmer B. . . . .	77	-	-	-	-
Peabody, Margie G. . . .	75	-	-	-	-		Sanborn, Arthur H. . .	78	-	-	-	-
Perrin, Julia . . . . .	75	-	-	-	-		Shattuck, Katie E. . .	79	-	-	79	-
Perry, Walter S. . . . .	75	-	-	-	-		Sherman, Lillie L. . .	78	-	-	-	-
Pitman, Sophia L. . . . .	75	76	-	-	-		Smith, Elmira G. . . .	78	-	-	-	-
Palmer, Lanra E. . . . .	76	-	-	-	-		*Stetson, Julia A. . .	78	79	-	-	-
Plaisted, Lilla M. . . . .	76	79	-	78	-		Storer, Charles . . . .	78	-	-	-	-
Parsons, Caroline L. . . .	77	78	-	-	-		Stone, Josephine M. . .	78	78	-	-	-
Parsons, Lydia A. . . . .	77	78	-	-	-		Simmons, Elizabeth J. .	78	81	-	-	-
Perry, Chas. H. . . . .	77	-	-	-	-		Stacey, John F. . . . .	79	79	81	80	1881
Porter, George M. . . . .	77	-	-	79	-		Smith, Clara M. . . . .	80	-	-	-	-
Page, Henrietta . . . . .	78	-	-	-	-		Smith, May L. . . . .	80	81	-	82	-
Parker, Emma T. . . . .	78	-	-	-	-		Sherry, A. Fannie, . .	80	81	-	-	-
Prichard, John A. . . . .	78	79	80	79	1880		*Swasey, Josephine F. M.	80	-	-	-	-
Prince, Flora . . . . .	78	-	-	-	-		Scribner, A. W. . . . .	81	82	84	83	1884
Piper, Edwin D. . . . .	79	-	81	-	-		Sears, Kate B. . . . .	82	-	-	-	-
Poole, Jennie A. . . . .	80	-	-	-	-		Sears, Minnie P. . . . .	82	-	-	-	-
Poor, Henry W. . . . .	80	81	83	82	1883		Sherman, Mertie E. . .	82	84	-	-	-
Page, Hollis B. . . . .	81	-	-	-	-		Slafter, Annie R. . . .	82	83	-	-	-
Pillsbury, E. . . . .	81	-	-	-	-		Stetson, M. Josie . . .	82	-	-	-	-
Pond, Adeline V. . . . .	81	82	-	83	-		*Sweeney, Thomas E. .	82	83	84	85	1885
Packard, Fred C. . . . .	82	-	-	-	-		Sanborn, Lizzie M. . .	83	85	84	86	1886
Page, Edith . . . . .	83	-	-	-	-		Skinner, Wm. L. . . . .	83	84	86	85	1886
Peterson, Georgia . . . .	83	-	-	-	-		Smith, Fannie H. . . .	83	85	-	-	-
Perkins, Bessie H. . . .	85	-	-	-	-		Spaulding, Alice Maude	84	85	-	-	-
Prince, Jessie N. . . . .	85	-	-	-	-		Smith, Mary B. . . . .	85	-	86	-	-
Pitblado, Grace . . . . .	86	-	-	-	-		Smith, Mollie . . . . .	85	-	-	-	-

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas.
	A.	B.	C.	D.				A.	B.	C.	D.	
Stephens, Kate . . .	85	-	-	-	--		Webster, Clara E. . .	77	78	80	79	1880
Sinclair, Annie N. . .	85	86	-	-	--		Webster, Addie L. . .	77	-	-	-	--
Smith, Nellie E. . .	86	-	-	-	--		Woodman, George E. . .	77	-	-	-	--
Smith, Carrie E. . .	86	-	-	-	--		Watson, Lucretia S. . .	78	-	-	-	--
Snowe, Myrtle W. . .	86	-	-	-	--		Webster, M. Isabel . .	78	80	-	-	--
Swain, Amy . . .	86	-	-	-	--		*Webster, Clara E. . .	78	-	-	-	--
Starkweather, Sidney F.	86	-	-	-	--		Wellington, Sarah H. .	78	-	-	-	--
Tufts, Abbie B. . .	74	-	-	-	--		Whitney, Lizzie E. . .	78	79	-	-	--
Taylor, Will L. . .	75	-	-	-	--		Whitney, Chas. F. . .	78	-	-	-	--
Tucker, Emily J. . .	75	-	-	-	--		White, Abbie M. . .	78	-	-	-	--
Thompson, Wm. A. . .	76	-	-	-	--		Wild, Mary E. . .	78	-	-	-	--
Taft, Mary F. . .	77	-	-	-	--		Williams, Maria F. . .	78	-	-	-	--
*Thaxter, Thomas W. .	77	-	-	-	--		Wiley, Emma I. S. . .	78	-	-	-	--
Thompson, L. S. . .	77	-	-	-	--		Wilson, Clara . . .	79	80	83	81	1883
Torrey, Wm. F. . .	77	-	-	-	--		Whitcomb, Camilla G. .	80	81	-	-	--
Trask, Abbie J. . .	77	-	-	-	--		White, Sarah L. . .	80	-	-	-	--
Thomas, Ella A. . .	78	-	-	-	--		*Withey, Alice A. . .	80	81	-	82	--
Titus, Lucy E. . .	80	-	-	-	--		Woods, Jennie A. . .	80	82	-	-	--
Taylor, George . . .	81	82	-	-	--		Woods, Florence . . .	80	-	-	-	--
Todd, Emma . . .	81	83	-	84	--		Walker, Gertrude B. .	81	-	-	-	--
*Tibbetts, Arthur L. .	82	-	-	-	--		Walton, Mary . . .	81	-	-	-	--
Tilton, M. Bessie . .	82	-	-	-	--		White, Lucy F. . .	82	-	-	-	--
Titus, Sarah A. . .	83	-	-	-	--		Whitcomb, Fannie M. .	82	-	-	-	--
Teed, Hannah J. . .	84	-	-	-	--		Wilbar, M. Ella . . .	82	-	-	-	--
Taylor, Antoinette P. .	86	-	-	-	--		Wilson, Lizzie E. . .	82	-	-	-	--
Upham, Esther M. . .	85	-	-	-	--		Woodward, William . .	83	83	84	86	1886
Vonnoh, Robert W. . .	77	78	-	79	--		Wadsworth, Florence L.	84	-	-	-	--
Vance, Carrie M. . .	82	84	-	85	--		Weymouth, Georgia . .	84	-	-	-	--
Walker, Sophia A. . .	75	-	-	-	--		Wright, Ida M. . .	85	-	-	-	--
Whiton, Maria E. . .	75	-	-	-	--		Woodbury, Alice P. . .	85	-	-	-	--
Ware, George Wild . .	76	-	-	-	--		Walsh, Lilian K. . .	86	-	-	-	--
Wellington, Leah M. .	76	77	-	78	--		Young, Esther M. . .	85	-	-	-	--

\* Deceased.

# Massachusetts Normal Art School.

---

In view of the great importance of drawing as a branch of education, the Legislature, by an Act passed May 16, 1870, made instruction in this branch obligatory in the public day schools, and required cities and towns containing more than ten thousand inhabitants to make provision for free instruction in industrial drawing to persons over fifteen years of age. This act met with much public favor ; but it was soon found that it was impossible to realize satisfactorily the benefits intended by the Act for want of competent teachers. A Resolve was therefore passed by the Legislature providing for the establishment and maintenance of a State Normal Art School.

## DESIGN OF THE SCHOOL.

This school is intended to be a training school for teachers of industrial art. The specific aim at present is to prepare instructors to teach and superintend industrial drawing in the schools of the State. It also aims to provide for high skill in technical drawing, and for industrial art culture.

## LOCATION.

Corner of Newbury and Exeter Streets.

---

#### CONDITIONS OF ADMISSION.

Candidates for admission must be above sixteen years of age ; must bring a certificate of good moral character from some well-known person in the town in which they reside, and must be able to pass an examination in the common English branches of study, and in freehand drawing of ornament from copy. (See also preparatory class.) This examination will be held at the beginning of each school year. Tuition is free to students residing within the State and intending to teach drawing in the public schools, but five dollars per term will be charged for incidentals. Tuition for students from without the State is fifty dollars per term. Students requiring instruction in special studies may enter any class without passing through class A, by payment of a fee of fifty dollars per term, and passing an examination.

All fees are payable to the curator at the beginning of each term.

#### COURSE OF INSTRUCTION.

The school offers a four years' course (see class A) of training in the mechanical and artistic branches, and their practical application to industry. The work of class A is devoted to elementary drawing ; of class B to form, color and industrial design ; of class C to the constructive arts, and of class D to sculpture and design in the round. Many of the lectures are given during the first term, and cannot be repeated during the second term. For the work of classes A, B or D the student, if desirous, will receive a written statement from the principal. Students having



completed the work of classes A and C, will receive a diploma certifying that they are qualified to teach mechanical and architectural drawing; those having completed the work of classes A, B and D, one certifying to their qualifications to teach industrial art.

#### CLASS IN THE ART INDUSTRIES AND REPRODUCING ARTS.

This class and the subjects taught in it are elective; only the students of classes B, C and D are eligible for membership. The class will be instructed by the various teachers, each taking some special art.

By the instruction given, students will be made practically familiar with some of the industrial arts, and for this reason more competent to give instruction in subjects bearing upon the art industries of the State.

#### EXAMINATIONS.

In addition to the regular certificate works, class exercises in the subjects studied during the year must be submitted to show whether the student has acquired the knowledge and manipulative skill necessary for teaching industrial art. If the works pass examination and an average of 65 per cent. in time sketches and test examination has been earned, the student will be entitled to the certificate examination at the end of the school-year. Students failing to pass in any subject may apply again the next year on condition that they again perform all the regular class-work required in that study, but they will not receive any certificate until all the subjects of examination have been passed and all certificate works approved.



---

**POST GRADUATE COURSE.**

Graduated students may continue the course of study for one year, without payment of fees, on condition that if called upon by the principal they will devote some of their time to teaching in the school.

**RECOMMENDATION FOR APPOINTMENT.**

The school takes no responsibility in securing appointments, but applications for teachers will be brought to the attention of such students as the faculty judge best prepared to do the required work.

**REGULATIONS OF THE SCHOOL.**

All materials and apparatus required are to be provided by the students ; no examples for instruction can be removed from the school by them, and any damage done to the property of the school must be paid for by those causing it.

Attendance will be registered daily and absence or tardiness must be explained to the instructors. Excuses will be granted by the principal only upon application made through the instructor of the class.

Every student will be provided with a locker, in which to keep boards and drawing materials. On receiving the key the student must deposit one dollar as a guarantee that the key will be returned ; when this is done the money will be refunded. Keys lost or broken by students must be replaced by them.

The only works allowed to be executed in the school, are those required by the instructors to illustrate their lectures or lessons, and those on the list of certificate works.

Each instructor will require a certain amount of work to be done by the students between lectures which must be regarded as a part of the regular school work.

Any text-book required for use or reference will be indicated by the instructor.

Students may remain in any class for two years, but having failed to complete the required work within that time, will be considered as no longer belonging to it, and can complete this course of study only as special students.

Students who have passed through class A, and whose appointments as teachers of drawing prevent their attendance at the school, upon the payment of the regular fees, and fulfilling all the requirements of any succeeding class, will be treated as if in attendance at the school.

Any certificate work which, in the opinion of the principal, does not show sufficient skill to qualify the student to teach the subject, will be rejected and another one required.

Not less than one work nor more than two works from the set belonging to each student, will be retained as the property of the school.

The student who produces the best set of works in his class will receive a written certificate from the principal testifying to the fact; these sets will be retained for one year and placed on exhibition in the school.

The discipline of the school is made as simple as possible ; pupils are expected to govern themselves, to do without compulsion what is required, and to refrain from all improprieties of conduct ; those who are unwilling to conform to the known wishes of the teachers are presumed to be improper persons to continue in the school.

All persons presenting themselves for admission to the school are judged to have read these regulations, and the signed application is considered a pledge to abide by them.

#### SCHOOL YEAR.

The school year of 1886-7 will begin the third Monday in September, 1886, and close the last Friday in June, 1887.

The year is divided into two terms : the first comprises the months of September, October, November, December and January ; the second, beginning February 14, the months of February, March, April, May and June.

#### SESSIONS.

Instruction is given from 9 A. M. to 2 P. M., on Monday, Tuesday, Wednesday, Thursday and Friday.

#### VACATIONS AND HOLIDAYS.

Thanksgiving Day and the remainder of the week. Christmas Day to New Year's Day inclusive. From January 28th to February 14th, Washington's Birthday, Good Friday, Fast Day. One week, beginning with the second Monday in April, and Decoration Day.

## PREPARATORY CLASS.

INSTRUCTORS, SAME AS IN CLASS A.

For the benefit of those persons who have not had the training necessary to qualify them for admission to class A, an elementary or preparatory class has been established, for admission to which an examination in outline drawing from copy will be given. In this class instruction will be given in the following subjects : — Forms of bodies as the basis of drawing ; single and combined working views ; freehand and instrumental perspective views ; elementary drawing and design ; instrumental geometry and perspective ; a graded course in light and shade, using charcoal, sepia, crayon and water color. One finished drawing in each subject must be made, so arranged as to show the method of instruction given.

## LIST OF DRAWINGS.

[ To be on half imperial paper. ]

1. Geometric Problems.
2. Perspective Problems.
3. Orthographic Projection.
4. Model Drawing (in outline).
5. Model shaded with stump.
6. Model shaded with sepia or India ink.
7. Elementary Exercises in design, showing principles and mode of procedure.
8. Botanical Analysis.



- 
9. Outline of Furniture.
  10. Outline of Foliage.
  11. Outline of Historic Ornament.
  12. Illustrations of Elementary Drawing.

The above works having been completed students must pass the following examinations for admission to class A :

1. Plane Geometry.
2. Perspective — parallel and angular.
3. Orthographic Projection.
4. Model Drawing (outline).
5. Model Drawing (shaded).
6. Historic Ornament (outline from cast).

These examinations must be passed by all who desire admission to class A. They will be given to those not members of the preparatory class at the beginning of the school year.

Members of the preparatory class will be admitted to class A, when they shall have completed all the work of the class and shall have passed the above examinations.

## Class A.

### ELEMENTARY DRAWING.

#### Instructors.

Mr. GEO. H. BARTLETT	.	.	.	Freehand Drawing, Light and Shade, Historic Ornament, Color and Design.
Mr. W. F. BRACKETT	.	.	.	Perspective, Geometry, Isometric, Building Construction and Model Drawing.
Mr. CHAS. M. CARTER	.	.	.	Teaching in the Public Schools.
Mr. A. K. CROSS	.	.	.	Orthographic Projection, Projection of Shadows and Machine Drawing.
Miss A. M. DAVIS	.	.	.	Freehand Drawing.

### LIST OF DRAWINGS.

[ To be made on whole or half imperial paper. ]

1. Geometric Problems.
2. Perspective Problems.
3. Orthographic Projection.
4. Projection of Shadows.
5. Machine Drawing.
6. Building Construction.
7. Model Drawing in Outline.
8. Model Drawing shaded in water color (monochrome).
9. Model Drawing shaded in charcoal (3 stages).
10. Details showing methods of giving black and white values for colors.
11. Model Drawing shaded in crayon.

13. Details of the human figure, from the cast, showing : 1st, blocking-in lines ; 2d, finished outline ; 3d, breadth of shade, indicated by half-tint.
14. Outline of animal form from cast.
15. Ornament from cast, shaded in chalk with point or stump.
16. Ornament from cast, shaded with sepia or India ink.
17. Exercises in Design, showing principles and methods. •
18. An original practical design for the flat or round.
19. Analysis of plant and insect form from nature for the purpose of design.
20. Analysis of Styles of Historical Ornament.
21. Specimen Drawing Exercises arranged for Public Schools.

#### EXAMINATION FOR CERTIFICATE.

The above drawings having been submitted and approved, examinations in the following subjects will be held at the end of the year :

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Plane Geometrical Drawing. | 7. Machine Drawing.                 |
| 2. Orthographic Projection.   | 8. Building Construction.           |
| 3. Perspective                | 9. Historical Ornament.             |
| 4. Model Drawing from Object. | 10. Harmony of Color.               |
| 5. Isometric Projection.      | 11. Teaching in the Public Schools. |
| 6. Projection of Shadows.     |                                     |

List of examinations for entrance on page 17.

## Class B.

### FORM, COLOR AND INDUSTRIAL DESIGN.

ANATOMY AND DRAWING OF THE FIGURE.

ADVANCED PERSPECTIVE.

INDUSTRIAL DESIGN.

HARMONY AND CHEMISTRY OF COLOR, WITH PRACTICE IN WATER  
COLORS AND OILS.

#### *Instructors.*

Miss D. L. HOYT . . . . .	Water Color Painting, Chemistry of Colors and History of Painting.
Mr. ALBERT H. MUNSELL . . . . .	Anatomy, Figure Drawing and Advanced Perspective.
Miss M. A. BAILEY . . . . .	Oil Painting, Industrial Design, Harmony of Color.

### LIST OF CERTIFICATE WORKS.

#### Painting in Water Colors.

1. Flower and Foliage from Nature.
2. Group as a Study for Composition and Color.
3. Sheet, showing progressive stages of water-color painting.

#### Drawings.

4. Head from life.
5. Study of Antique Figure from Cast.
6. Skeleton of Same.
7. Muscles of Same.
8. } Studies of Detail and Action from the Living Model.
9. }
10. Perspective ; Shadows, Reflections and Aerial Effects.

#### Painting in Oil.

11. Study in Monochrome from Still Life.
12. Group as a Study of Composition and Color.



**Design in Color—Surface Decoration.**

1. Details comprising the human, animal and plant forms for the purpose of design.
2. An original practical design, with the whole or part of the sheet of details applied. This design must be worked to scale.

Students who intend devoting two years to class B must make the sheet of details and original design during the first year, otherwise they will not be allowed to enter the class a second year.

The designs in classes B, C and D must be made in accordance with a proposition to be given at the beginning of each school year.

**EXAMINATIONS FOR CERTIFICATE.****Practice.**

1. Time sketch in oil, of a group of objects and still life.
2. Time sketch in water colors, of objects and still life.
3. Head from life in charcoal.
4. Time sketch, in light and shade, of a cast of human figure.

**Theory.**

5. Paper on the harmony of color, illustrated by sketches.
6. Paper on the origin and chemistry of colors, and on the technical terms used in painting.
7. Paper on the application of surface ornament to industrial purposes.
8. Paper on the principles and styles of the historic schools of painting.
9. Anatomy: Rendering of an antique figure.
10. Perspective, aerial, shadows and reflections.

## Class C.

### CONSTRUCTIVE ARTS.

ARCHITECTURAL DESIGN.  
MACHINE DRAWING — CONSTRUCTION AND DESIGN.  
DESCRIPTIVE GEOMETRY.  
TOPOGRAPHICAL DRAWING.

#### *Instructors.*

MR. W. F. BRACKETT	. . .	Building Construction and Architectural Design.
MR. A. K. CROSS	. . .	Descriptive Geometry, Machine Drawing, Topography and Ship Draughting.

### LIST OF CERTIFICATE WORKS.

#### Architectural Design and Building Construction.

1. Design for a house or public building, showing plans, elevations, sections and perspective, on one sheet.
2. Structural details, on an enlarged scale, of floors, windows, roof and staircase, of the first subject.
3. Monograph of the ancient, mediæval or modern styles of architecture and ornament.
4. Drawing of a building to scale from actual measurement of the structure ; plans and two geometric elevations.

#### Machine Drawing — Construction and Design.

5. Sheet of screws, and application of screw forms.
6. Sheet of wheels, spur, bevel, cams, eccentrics, gearing.
7. Plan, elevation and section of a locomotive or engine, from copy.
8. { Drawing to scale from a drill, pump, or other machine.  
Details of same prepared for shop.

**Descriptive Geometry.**

9. Sheet of illustrations, in outline, from lectures on descriptive geometry. Development of surfaces.
10. Sheet of intersections of solids and projection of shadows; tinted.
11. Ship draughting. Lines of a boat.

Two designs must be made by each student in accordance with the given proposition. (See class B.)

**EXAMINATIONS FOR CERTIFICATE.****Architectural Design.**

1. Paper on the styles of architecture and ornament illustrated in the monograph.
2. Paper on building construction in the several materials used.
3. Design for a building in the style employed for the certificate work, complying with given conditions. Sketches required.
4. Design for details of ornament.

**Machine Design.**

5. Paper on details of machinery.
6. Drawing to scale from a machine placed in the examination room.

**Topography, Descriptive Geometry, and Ship Draughting.**

7. Paper on solid geometry and projection of shadows.
8. Map Drawing.
9. Draughting a vessel from data.

## SCULPTURE AND DESIGN IN THE ROUND—MODELLING AND CASTING.

*Instructors,* . . . . { Mr. ALBERT H. MUNSELL.  
                                      } Mr. THOMAS E. SWEENEY.

## Ornament and Animal Form.

1. Historic ornament in one style from the cast.
2. Study of ornament from flat copy.
3. A design for a capital, spandrel, panel, rosette, or enriched moulding executed the full size, for stone, wood, iron, or terra-cotta.

4. Portrait head from nature, life-size, in the round or relief.
5. Bas-relief from antique figure in the round.
6. Anatomical rendering of an antique figure.
7. Bust, life-size, from the antique.
8. Study from life, in relief or the round, of the whole figure.

9. Cast from nature of an arm, hand, foot or mask.  
10. Cast from nature of foliage, fruit or flowers.



11. Casts from a piece-mould, sulphur-mould and gelatine-mould, made by the student from his own models or selected works.

Two designs must be made by each student, in accordance with the given proposition (see class B), also a sheet of details of animal form drawn from the flat or round, with the light and shade indicated by half-tint ; these details are to be grotesqued on the same sheet.

#### EXAMINATIONS FOR CERTIFICATE.

##### Theory.

1. Paper on sculptured ornament of the Historical Schools.
2. Paper on design applied to objects in the round ; viz., plaster, terracotta, wood work (constructional and sculptured), metal (cast and wrought), stone, marble, etc.
3. Paper on sculpture of the human figure.

##### Practice.

4. To sketch in clay an anatomical rendering of an antique figure.
5. To sketch in clay a relief copy of a piece of ornament from the cast or shaded copy.
6. Cast of same.
7. To model a relief from the entire figure in the round.
8. To model a bust or statuette from the antique or life or shaded copy,
9. To make a charcoal sketch of a head from nature, life-size

**NOTICE CONCERNING CERTIFICATE WORKS.**

Four of the ten certificate models are to be of imperial size, or in the round, and one is to be cast by the student, and left in the school as a specimen.

The works are to be an example of bas-relief, of mezzo-relief, alto-relief, or the round.

# Form of Application for Admission.

Date,.....

Name of applicant (in full), .....

Age, ..... Occupation, .....

Address, .....

Parents' Occupation, .....

One of the following forms is to be filled up, according to the circumstances of the applicant: —

1. I, ..... residing at .....  
in the State of Massachusetts, .....  
being desirous of becoming a qualified Teacher of Drawing, and intending to teach drawing in the said State, after passing the required examinations, hereby make application for admission to the Massachusetts Normal Art School, and engage to attend regularly, and to offer myself for examination at the end of the annual session, if permitted to do so; and, having read the rules and regulations of the School, agree to abide by them.

2. I, ..... of .....  
not being a resident of the State of Massachusetts,—or, if a resident, having no intention of teaching drawing,—hereby make application for admission as a student of the Massachusetts Normal Art School, and will, upon admission, pay in advance the fees for instruction given each term; will also undertake to attend regularly during the time the School is open, and offer myself for examination at the end of the annual session, if permitted to do so; and, having read the rules and regulations of the School, agree to abide by them.

	1.	2.	3.	4.
	PREPARATORY CLASS AND CLASS A.	CLASS B.	CLASS C.	CLASS D.
Monday	. . . . .	. . . . .	. . . . .	9 A.M. to 2 P.M.
Tuesday	. . . . .	. . . . .	. . . . .	9 A.M. to 2 P.M.
Wednesday	. . . . .	. . . . .	. . . . .	9 A.M. to 2 P.M.
Thursday	. . . . .	. . . . .	. . . . .	9 A.M. to 2 P.M.
Friday	. . . . .	. . . . .	. . . . .	9 A.M. to 2 P.M.

Divisions 2, 3 and 4 are only open to those students who have completed the drawings for Certificate A, unless entering as special students.

Applicants will underline the Division or Class, and also the time they wish to attend.

This form is to be filled and signed, and sent to

THE CURATOR NORMAL ART SCHOOL,  
1645 Washington Street, Boston.

The examination for admission into the preparatory class will be in the subject of freehand outline drawing from copy, and for class A in the following subjects: —

1. Plane Geometry.
2. Perspective — parallel and angular.
3. Orthographic Projection.
4. Model Drawing (outline).
5. Model Drawing (shaded).
6. Historic Ornament (outline from cast).

The examinations will begin the third Monday in September at 10 A.M. Former students will assemble at 9 A.M.













CIRCULAR

OF THE

Massachusetts Normal Art School,

CORNER OF NEWBURY AND EXETER STS., BOSTON,

*UNDER THE DIRECTION OF THE STATE BOARD OF EDUCATION.*

FIFTEENTH YEAR, 1887-88.



BOSTON :

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,  
18 POST OFFICE SQUARE.

1887.





# State Board of Education.

---

HIS EXCELLENCY THE GOVERNOR.  
HIS HONOR THE LIEUTENANT-GOVERNOR.

Hon E. B. STODDARD . . . . .	Worcester.
Rev. ALONZO A. MINER, LL.D. . . . .	Boston.
ADMIRAL P. STONE, LL.D. . . . .	Springfield.
Miss ABBY W. MAY . . . . .	Boston.
Hon. M. B. WHITNEY . . . . .	Westfield.
Gen. F. A. WALKER, LL D. . . . .	Boston.
EDWARD C. CARRIGAN, Esq. . . . .	Boston.
HORACE E. SCUDDER, Esq. . . . .	Cambridge.

Secretary of the Board.  
JOHN W. DICKINSON, A.M.

Assistant Secretary and Treasurer.  
C. B. TILLINGHAST.

Agents of the Board.  
GEORGE A. WALTON, A.M.      GEO. H. MARTIN, A.M.      JOHN T. PRINCE.

Agent for the Promotion of Industrial Drawing.  
HENRY T. BAILEY.

---

BOARD OF VISITORS, NORMAL ART SCHOOL.  
Rev. A. A. MINER, D.D.      Miss ABBY W. MAY.      Gen. F. A. WALKER.  
HORACE E. SCUDDER, Esq.

## FACULTY AND OFFICERS OF THE SCHOOL.

Mr. GEO. H. BARTLETT . . . . . *Principal.*  
 JOHN W. DICKINSON, A.M., *Lecturer,* . . . . Principles and Methods of Teaching.

## Instructors.

Mr. GEO. H. BARTLETT . . . .	Freehand, Light and Shade Drawing	Classes A and B.
Mr. W. F. BRACKETT . . . .	Architecture and Perspective	Classes A and C.
Mr. A. K. CROSS . . . . .	Geometry and Instrumental Drawing	Classes A and C.
Miss L. M. FIELD . . . . .	Drawing in the Public Schools	Class A.
Mrs. A. M. RYDINGSVÄRD . . .	Freehand Drawing	Class A.
Mr. F. H. TOMPKINS . . . .	Oil Painting (head and figure)	Classes B and D.
Mr. ALBERT H. MUNSELL . . .	Sculpture and Advanced Perspective	Classes B and D.
Mr. THOMAS E SWEENEY, . . .	Sculpture and Anatomy	Classes B and D.
Miss D. L. HOYT . . . . .	Painting in Water Color	Class B.
Miss M. A. BAILEY . . . . .	Painting in Oil	Class B.

Miss M. T. JONES, *Curator.*

/

# Massachusetts Normal Art School.

In view of the great importance of drawing as a branch of education, the Legislature, by an Act passed May 16, 1870, made instruction in this branch obligatory in the public day schools, and required cities and towns containing more than ten thousand inhabitants to make provision for free instruction in industrial drawing to persons over fifteen years of age. This Act met with much public favor; but it was soon found that it was impossible to realize satisfactorily the benefits intended by the Act for want of competent teachers. A Resolve was therefore passed by the Legislature providing for the establishment and maintenance of a State Normal Art School.

## DESIGN OF THE SCHOOL.

This school is intended to be a training school for teachers of industrial art. The specific aim at present is to prepare instructors to teach and superintend industrial drawing in the schools of the State. It also aims to provide for high skill in technical drawing, and for industrial art culture.

## LOCATION.

Corner of Newbury and Exeter Streets, Boston.

## CONDITIONS OF ADMISSION.

Candidates for admission must be above sixteen years of age; must bring a certificate of good moral character from

some well-known person in the town in which they reside, and must be able to pass an examination in the common English branches of study, and in freehand drawing of ornament from copy.

Applicants for admission to class A must pass examinations in the following subjects : —

- |  |                                    |
|--|------------------------------------|
| 1. Plane Geometry.                     | 5. Model Drawing (shaded).         |
| 2. Perspective — parallel and angular. | 6. Historic Ornament (outline from |
| 3. Orthographic Projection.            | cast).                             |
| 4. Model Drawing (outline).            |                                    |

These examinations will be held at the beginning of each school year. Tuition is free to students residing within the State and intending to teach drawing in the public schools, but five dollars per term will be charged for incidentals. Tuition for students from without the State is fifty dollars per term. Students requiring instruction in special studies may enter any class without passing through class A, by payment of a fee of fifty dollars per term, and passing an examination.

All fees are payable to the curator at the beginning of each term.

#### COURSE OF INSTRUCTION.

The school offers a four years' course (see class A) of training in the mechanical and artistic branches, and their practical application to industry, and a two years' course of training for the work of teaching and supervising drawing in our public schools. The work of class A is devoted to elementary drawing; of class B to form, color and industrial design; of class



C to the constructive arts, and of class D to sculpture and design in the round. Many of the lectures are given during the first term, and cannot be repeated during the second term. For the work of classes A, B or D the student, if desirous, will receive a written statement from the principal. Students having completed the work of classes A and C, will receive a diploma certifying that they are qualified to teach mechanical and architectural drawing; those having completed the work of classes A, B and D, one certifying to their qualifications to teach industrial art.

Upon entering class A, choice will be given each pupil of beginning a course of study that will fit him especially for teaching and supervising drawing in our public schools, or one that will prepare him to teach the broad subject of industrial art. The former course will cover two years' time and will include the industrial art work of class A. A special certificate will be given at its close. Those desiring to enter this division of class A must pass examination in the following subjects: 1. English Grammar and Composition. 2. History of the United States. 3. Geography of the United States. 4. Plane Geometry — two books of Euclid. 5. Elementary Botany. 6. Elementary Physiology. Pupils who have completed the industrial art course of class A and desire afterward to fit themselves for public-school work, can enter this division by passing the necessary examinations.

Opportunity will be given all pupils who have completed

classes B or D to return to the school for the exclusive study of painting the head and figure from life.

#### CLASS IN THE ART INDUSTRIES AND REPRODUCING ARTS.

This class and the subjects taught in it are elective ; only the students of classes B, C and D are eligible for membership. The class will be instructed by the various teachers, each taking some special art.

By the instruction given, students will be made practically familiar with some of the industrial arts, and for this reason more competent to give instruction in subjects bearing upon the art industries of the State.

#### EXAMINATIONS.

In addition to the regular certificate works, class exercises in the subjects studied during the year must be submitted to show whether the student has acquired the knowledge and manipulative skill necessary for teaching industrial art. If the works pass examination and an average of 65 per cent. in time sketches and test examination has been earned, the student will be entitled to the certificate examination at the end of the school-year. Students failing to pass in any subject may apply again the next year on condition that they again perform all the regular class-work required in that study, but they will not receive any certificate until all the subjects of examination have been passed and all certificate works approved.

## POST GRADUATE COURSE.

Graduated students may continue the course of study for one year, without payment of fees, on condition that if called upon by the principal they will devote some of their time to teaching in the school.

## RECOMMENDATION FOR APPOINTMENT.

Those who may be in need of thoroughly trained teachers of drawing for the public schools, or special teachers of drawing, painting, modelling in clay and design, are requested to apply directly to the Principal. All such applications will be brought to the attention of such students as are judged to be prepared to do the required work.

## REGULATIONS OF THE SCHOOL.

All materials and apparatus required are to be provided by the students; no examples for instruction can be removed from the school by them, and any damage done to the property of the school must be paid for by those causing it.

Attendance will be registered daily and absence or tardiness must be explained to the instructors. Excuses will be granted by the principal only upon application made through the instructor of the class.

Every student will be provided with a locker, in which to keep boards and drawing materials. On receiving the key the student must deposit one dollar as a guarantee that the key will be returned; when this is done the money will be refunded. Keys lost or broken by students must be replaced by them.

The only works allowed to be executed in the school, are those required by the instructors to illustrate their lectures or lessons, and those on the list of certificate works.

Each instructor will require a certain amount of work to be done by the students between lectures which must be regarded as a part of the regular school work.

Any text-book required for use or reference will be indicated by the instructor.

Students may remain in any class for two years, but having failed to complete the required work within that time, will be considered as no longer belonging to it, and can complete this course of study only as special students.

Students who have passed through class A, and whose appointments as teachers of drawing prevent their attendance at the school, upon the payment of the regular fees, and fulfilling all the requirements of any succeeding class, will be treated as if in attendance at the school.

Any certificate work which, in the opinion of the principal, does not show sufficient skill to qualify the student to teach the subject, will be rejected and another one required.

Not less than one work nor more than two works from the set belonging to each student will be retained as the property of the school.

The student who produces the best set of works in his class will receive a written certificate from the principal testifying to the fact; these sets will be retained for one year and placed on exhibition in the school.



The discipline of the school is made as simple as possible; pupils are expected to govern themselves, to do without compulsion what is required, and to refrain from all improprieties of conduct; those who are unwilling to conform to the known wishes of the teachers are presumed to be improper persons to continue in the school.

All persons presenting themselves for admission to the school are judged to have read these regulations, and the signed application is considered a pledge to abide by them.

#### SCHOOL YEAR.

The school year of 1887-8 will begin the third Monday in September, 1887, and close the last Friday in June, 1888.

The year is divided into two terms: the first comprises the months of September, October, November, December and January; the second, beginning February 13, the months of February, March, April, May and June.

#### SESSIONS.

Instruction is given from 9 A. M. to 2 P. M., on Monday, Tuesday, Wednesday, Thursday and Friday.

#### VACATIONS AND HOLIDAYS.

Thanksgiving day and the remainder of the week. Christmas Day to New Year's Day inclusive. From January 27th



to February 13th, Washington's Birthday, Good Friday, Fast Day. One week, beginning with the second Monday in April, and Decoration Day.

#### PREPARATORY CLASS.

INSTRUCTORS, SAME AS IN CLASS A.

For the benefit of those persons who have not had the training necessary to qualify them for admission to class A, an elementary or preparatory class has been established, for admission to which an examination in outline drawing from object will be given. In this class instruction will be given in such subjects as are taught in class A.

When, in the judgment of the faculty, pupils of this class have acquired a sufficient knowledge of principles involved in these subjects, they will be allowed to present themselves for examination to enter class A.

## Class A.

## ELEMENTARY DRAWING.

## INSTRUCTORS.

Mr. GEO. H. BARTLETT	.	.	Freehand Drawing, Light and Shade, Historic Ornament, Color and Design.
Mr. W. F. BRACKETT	.	.	Perspective, Geometry, Isometric, Building Construction and Model Drawing.
Miss L. M. FIELD	.	.	Teaching in the Public Schools.
Mr. A. K. CROSS	.	.	Orthographic Projection, Projection of Shadows and Machine Drawing.
Mrs. A. M. RYDINGSVÄRD	.	.	Freehand Drawing.

## LIST OF DRAWINGS.

[To be made on whole or half imperial paper.]

1. Geometric Problems.
2. Perspective Problems.
3. Orthographic Projection.
4. Projection of Shadows.
5. Machine Drawing.
6. Building Construction.
7. Model Drawing in Outline.
8. Model Drawing shaded in water color (monochrome).
9. Model Drawing shaded in charcoal (3 stages).
10. Details showing methods of giving black and white values for colors, with group of objects, shaded in crayon, illustrating the same.

11. Outline of group of common objects.
12. Details of the human figure, from the cast, showing : 1st, blocking-in lines ; 2d, finished outline ; 3d, breadth of shade, indicated by half-tint.
13. Outline of animal form from cast.
14. Ornament from cast, shaded in chalk with point or stump.
15. Exercises in Design, showing principles and methods.
16. An original practical design for the flat or round.
17. Analysis of plant and insect form from nature for the purpose of design.
18. Analysis of Styles of Historical Ornament.

, EXAMINATION FOR CERTIFICATE.

The above drawings having been submitted and approved, examinations in the following subjects will be held at the end of the year :

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Plane Geometrical Drawing. | 7. Machine Drawing.                 |
| 2. Orthographic Projection.   | 8. Building Construction.           |
| 3. Perspective.               | 9. Historical Ornament.             |
| 4. Model Drawing from Object. | 10. Harmony of Color.               |
| 5. Isometric Projection.      | 11. Teaching in the Public Schools. |
| 6. Projection of Shadows.     |                                     |

List of examinations for entrance on page 7.

## Class B.

### FORM, COLOR AND INDUSTRIAL DESIGN.

ANATOMY AND DRAWING OF THE FIGURE.

ADVANCED PERSPECTIVE.

INDUSTRIAL DESIGN.

HARMONY AND CHEMISTRY OF COLOR, WITH PRACTICE IN WATER  
COLORS AND OILS.

#### *Instructors.*

Miss D. L. Hoyt . . . .	Water Color Painting, Chemistry of Colors and History of Painting.
Mr. Albert H. Munsell . . .	Anatomy, Figure Drawing and Advanced Perspective.
Miss M. A. Bailey . . . .	Oil Painting, Industrial Design, Harmony of Color.

### LIST OF CERTIFICATE WORKS.

#### PAINTING IN WATER COLORS.

1. Flower and Foliage from Nature.
2. Group as a Study for Composition and Color.
3. Sheet of water-color painting, showing Studies from Still Life in both Monochrome and Color.

#### DRAWINGS.

4. Head from life.
5. Study of Antique Figure from Cast.
6. Skeleton of Same.
7. Muscles of Same.
8. } Studies of Detail and Action from the Living Model.
9. }
10. Perspective ; Shadows, Reflections and Aerial Effects.

## PAINTING IN OIL.

11. Study in Monochrome from Still Life.
12. Group as a Study of Composition and Color.

## DESIGN IN COLOR — SURFACE DECORATION.

1. Details comprising the human, animal and plant forms for the purpose of design.
2. An original practical design, with the whole or part of the sheet of details applied. This design must be worked to scale.

Students who intend devoting two years to class B must make the sheet of details and original design during the first year, otherwise they will not be allowed to enter the class a second year.

The designs in classes B, C and D must be made in accordance with a proposition to be given at the beginning of each school year.

## EXAMINATIONS FOR CERTIFICATE.

## PRACTICE.

1. Time sketch in oil, of a group of objects and still life.
2. Time sketch in water colors, of objects and still life.
3. Head from life in charcoal.
4. Time sketch, in light and shade, of a cast of human figure.



## THEORY.

5. Paper on the harmony of color, illustrated by sketches.
6. Paper on the origin and chemistry of colors, and on the technical terms used in painting.
7. Paper on the application of surface ornament to industrial purposes.
8. Paper on the principles and styles of the historic schools of painting.
9. Anatomy : Rendering of an antique figure.
10. Perspective, aerial, shadows and reflections.

## Class C.

## CONSTRUCTIVE ARTS.

ARCHITECTURAL DESIGN.

MACHINE DRAWING—CONSTRUCTION AND DESIGN  
DESCRIPTIVE GEOMETRY.*Instructors.*

Mr. W. F. BRACKETT	Building Construction and Architectural Design.
Mr. A. K. CROSS	Descriptive Geometry, Machine Drawing, Topography and Ship Draughting.

## LIST OF CERTIFICATE WORKS.

## ARCHITECTURAL DESIGN AND BUILDING CONSTRUCTION.

1. Design for a house or public building, showing plans, elevations, sections and perspective, on one sheet.
2. Structural details, on an enlarged scale, of floors, windows, roof and staircase, of the first subject.
3. Monograph of the ancient, mediæval or modern styles of architecture and ornament.
4. Drawing of a building to scale from actual measurement of the structure ; plans and two geometric elevations.

## MACHINE DRAWING — CONSTRUCTION AND DESIGN.

5. Sheet of screws, and application of screw forms.
6. Sheet of wheels, spur, bevel, cams, eccentrics, gearing.

7. Plan, elevation and section of a locomotive or engine, from copy.
8. { Drawing to scale from a drill, pump, or other machine.  
  { Details of same prepared for shop.

## DESCRIPTIVE GEOMETRY.

9. Sheet of illustrations, in outline, from lectures on descriptive geometry. Development of surfaces.
10. Sheet of intersections of solids and projection of shadows; tinted.
11. Ship draughting. Lines of a boat.

Two designs must be made by each student in accordance with the given proposition. (See class B.)

## EXAMINATIONS FOR CERTIFICATE.

## ARCHITECTURAL DESIGN.

1. Paper on the styles of architecture and ornament illustrated in the monograph.
2. Paper on building construction in the several materials used.
3. Design for a building in the style employed for the certificate work, complying with given conditions. Sketches required.
4. Design for details of ornament.

## MACHINE DESIGN.

5. Paper on details of machinery.
6. Drawing to scale from a machine placed in the examination room.

## DESCRIPTIVE GEOMETRY.

7. Paper on solid geometry and projection of shadows.

## Class D.

## SCULPTURE AND DESIGN IN THE ROUND—MODELLING AND CASTING.

*Instructors,* . . . . . } Mr. ALBERT H. MUNSELL.  
 . . . . . } Mr. THOMAS E. SWEENEY.

## LIST OF CERTIFICATE WORKS.

## ORNAMENT AND ANIMAL FORM.

1. Historic ornament in one style from the cast.
2. Study of ornament from flat copy.
3. A design for a capital, spandrel, panel, rosette, or enriched moulding executed the full size, for stone, wood, iron or terra-cotta.

## HUMAN FIGURE.

4. Portrait head from nature, life-size, in the round or relief.
5. Bas-relief from antique figure in the round.
6. Anatomical rendering of an antique figure.
7. Bust, life-size, from the antique.
8. Study from life, in relief or the round, of the whole figure.

## CASTS.

9. Cast from nature of an arm, hand, foot or mask.
10. Cast from nature of foliage, fruit or flowers.



11. Casts from a piece-mould, sulphur-mould and gelatine-mould, made by the student from his own models or selected works.

Two designs must be made by each student, in accordance with the given proposition (see class B), also a sheet of details of animal form drawn from the flat or round, with the light and shade indicated by half-tint; these details are to be grotesqued on the same sheet.

#### EXAMINATIONS FOR CERTIFICATE.

##### THEORY.

1. Paper on sculptured ornament of the Historical Schools.
2. Paper on design applied to objects in the round; viz., plaster, terra-cotta, wood work (constructional and sculptured), metal (cast and wrought), stone, marble, etc.
3. Paper on sculpture of the human figure.

##### PRACTICE.

4. To sketch in clay an anatomical rendering of an antique figure.
5. To sketch in clay a relief copy of a piece of ornament from the cast or shaded copy.
6. Cast of same.
7. To model a relief from the entire figure in the round.

- 
8. To model a bust or statuette from the antique or life or shaded copy.
  9. To make a charcoal sketch of a head from nature, life-size.

NOTICE CONCERNING CERTIFICATE WORKS.

Four of the ten certificate models are to be of imperial size, or in the round, and one is to be cast by the student, and left in the school as a specimen.

The works are to be an example of bas-relief, of mezzo-relief, alto-relief, or the round.

# List of Students

WHO, HAVING PASSED THE EXAMINATION AND COMPLETED THE CERTIFICATE WORKS IN THE SEVERAL CLASSES ENUMERATED BELOW, HAVE RECEIVED CERTIFICATES OR THE DIPLOMA.

NOTE. — The numerals under each class signify the year (since 1870) in which the student, whose name is opposite, received the certificates.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.
	A.	B.	C.	D.				A.	B.	C.	D.		
Avery, Helen W. . .	75	79	—	—	—	—	Brewster, Geo. T. . .	79	80	—	—	—	—
*Anthony, Alfred J. . .	75	—	—	—	—	—	Bartlett, Carrie G. . .	79	—	—	—	—	—
Atwood, Evelyn . . .	77	—	—	—	—	—	Balch, Clara H. . . .	79	—	—	—	—	—
Adams, S. Herbert . . .	78	82	83	83	83	83	Ballord, Emma P. . .	80	82	—	—	—	—
Attwill, Lizzie B. . .	78	79	—	80	—	—	Brown, Lucy L. . . .	80	83	—	—	—	—
Adams, Chas. L. . . .	79	—	—	—	—	—	Bryant, Wallace . . .	81	83	82	84	84	84
Allen, Ralph W. . . .	81	—	82	—	—	—	Bragdon, Emmie W. . .	81	83	—	84	—	84
Adams, Dora M. . . .	81	82	—	—	—	—	Balch, A. L. . . . .	81	—	—	—	—	—
Andros, Annie H. . . .	85	87	—	—	—	—	Borland, Eva M. . . .	81	—	—	—	—	—
Austin, Alice . . . .	85	86	—	—	—	—	Black, Olive P. . . .	82	—	—	—	—	—
Alden, Mary S. . . .	86	—	—	—	—	—	Blake, Harold L. . . .	82	—	87	—	87	—
Beer, John A. . . . .	74	—	—	—	—	—	Buck, N. Eveline . . .	82	82	—	—	—	—
Berry, A. Hun . . . .	74	—	—	—	—	—	Banfield, Gertrude E. .	82	—	—	—	—	—
Briggs, William . . .	74	—	78	—	—	—	Ball, Lois E. . . . .	83	—	—	—	—	—
Baker, Lucas . . . .	74	75	79	78	79	79	Bancroft, Milton H. . .	83	84	85	86	85	86
Bowler, Emiline F. . .	75	78	—	80	—	—	Bumstead, Mary G. . .	83	—	—	—	—	—
Barry, Chas. A. . . .	75	75	—	77	—	—	Blake, Annie E. . . .	84	86	—	87	—	87
Brackett, W. F. . . .	75	—	78	81	78	—	Bailey, Henry T. . . .	84	85	84	87	84	87
Ball, Fannie E. . . .	75	—	—	—	—	—	Bates, Florence M. . .	84	—	—	—	—	—
Benham, Marion L. . .	75	—	—	—	—	—	Bates, Eliza J. . . .	84	—	—	—	—	—
Bowditch, Ellen O. . .	75	—	—	—	—	—	Batchelder, Mary A. .	84	85	—	—	—	—
Brammer, Joseph . . .	75	75	—	—	—	—	Bartlett, M. Lizzie . .	84	—	—	—	—	—
Bailey, Mercy A. . . .	75	—	—	—	—	—	Byron, Hattie E. . . .	84	—	—	—	—	—
Bucklin, Wm. S. . . .	76	—	—	—	—	—	Bartlett, Ethel G. . .	85	87	—	—	—	—
Booth, Etta E. . . . .	76	—	—	—	—	—	*Bathrick, Alice R. . .	85	—	—	—	—	—
Belleville, Hattie M. .	76	—	—	—	—	—	Bailey, Cora L. . . .	86	—	—	—	—	—
Burrage, Hattie A. . .	76	80	—	—	—	—	Blaisdell, Anna K. . .	86	—	—	—	—	—
Binney, Anna S. . . .	76	—	—	—	—	—	Bates, Grace L. . . .	87	—	—	—	—	—
Bradbury, Elenora C. .	77	78	81	79	81	81	Bolan, Marion . . . .	87	—	—	—	—	—
Bartlett, Mary G. . . .	77	79	—	—	—	—	Briggs, Eda . . . . .	87	—	—	—	—	—
Babbitt, Annie M. . .	77	—	—	—	—	—	Bustin, Hettie C. . . .	87	—	—	—	—	—
Burrison, Henry K. . .	78	—	—	—	—	—	Carleton, Hannah E. .	74	82	—	—	—	—
Brown, Hannah M. . .	78	—	—	—	—	—	Carney, Ellen D. . . .	74	75	—	80	—	—
Birney, Wm. V. . . .	78	79	—	—	—	—	Crawford, James W. .	74	—	—	—	—	—
Beals, Willis H. . . .	78	79	—	—	—	—	Clapp, Mary E. . . .	74	77	—	—	—	—
Brown, Maria L. . . .	78	—	—	—	—	—	Cleaveland, Julia H. .	75	—	—	—	—	—

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	NAME OF STUDENT.	CLASS. CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.
	A.	B.	C.	D.				A.	B.	C.	D.		
Tolby, Eugene C. . .	75	77	-	-	-	-	Dowe, Lemuel A. . .	79	-	-	-	-	-
Arter, Walter E. . .	75	-	-	-	-	-	Dyer, Florence A. . .	80	-	-	-	-	-
Clark, Fannie P. . .	76	-	-	-	-	-	Dow, Grace L. . . .	81	-	-	-	-	-
Arter, Chas. M. . . .	76	78	79	79	79	79	Damon, Evelina M. . .	83	85	-	-	-	-
Curtis, Annie E. . .	76	77	-	-	-	-	Dinsmore, Chas. H. .	83	-	-	-	-	-
Coburn, Bella . . . .	76	78	-	-	-	-	Dowse, Fannie C. . .	83	-	-	-	-	-
Cook, Herman E. . .	77	-	-	-	-	-	Dutton, Alice M. . .	83	85	-	-	-	-
Coffin, Clara A. . .	77	-	-	-	-	-	Dyer, Carrie E. . . .	83	-	-	-	-	-
Cheney, Alice E. . .	78	80	-	-	-	-	Damon, Nellie L. . .	84	-	-	-	-	-
Creighton, Hattie R.	78	-	-	-	-	-	Dodge, Charles C. . .	85	-	-	-	-	-
Colcord, Clara M. . .	78	80	-	-	-	-	Dix, Martha M. . . .	86	-	-	-	-	-
Collins, Frank H. . .	79	80	-	-	-	-	Dalrymple, Amy F. . .	86	-	-	-	-	-
Carleton, Herbert E.	79	-	-	-	-	-	Day, Elizabeth A. . .	87	-	-	-	-	-
Church, George B. . .	80	-	-	-	-	-	Davis, Emily S. . . .	87	-	-	-	-	-
Cook, Lucy R. . . . .	80	84	-	-	-	-	Dewick, Mary G. . . .	87	-	-	-	-	-
Carleton, Harriet E.	80	-	-	-	-	-	Emerson, Fannie S. .	75	-	-	-	-	-
Christie, Helen . . .	80	-	-	-	-	-	Elliott, Geo. B. . . .	77	-	-	-	-	-
Copeland, Edith S. . .	80	-	-	-	-	-	Edmans, Lena P. . . .	79	81	-	81	-	81
Chapin, Mary . . . .	81	-	-	-	-	-	Everett, Sadie E. . .	82	-	-	-	-	-
Collins, Alice M. . .	81	-	-	-	-	-	England, Wm. A. . . .	82	84	-	84	-	-
Carter, Mary A. . . .	81	-	-	-	-	-	Emmins, Charlotte J. .	83	86	-	-	-	-
Church, Wallace B. .	82	-	-	-	-	-	Eaton, Eliza S. . . .	84	86	-	-	-	-
Codding, Julia P. . .	82	-	-	-	-	-	Ellinwood, Minnie C. .	84	86	-	-	-	-
Cross, Anson K. . . .	82	82	83	-	83	-	Evans, Gertrude M. . .	85	-	-	-	-	-
Carter, Hannah J. . .	82	83	-	-	-	-	Edminster, C. Frank .	86	-	86	-	86	-
Clark, Fannie M. . .	82	83	-	-	-	-	French, Loresta E. . .	74	-	-	-	-	-
Cleaves, Florence . .	83	85	84	86	84	86	*Fisher, Maud R. . . .	75	77	-	-	-	-
Calrow, Alice B. . . .	84	85	-	-	-	-	Francis, Ellen A. . . .	77	-	-	-	-	-
Carter, Fannie E. . .	84	-	-	-	-	-	Farley, Helen S. . . .	78	80	-	82	-	82
Crooks, Fanny E. . .	84	-	-	-	-	-	Fowler, John S. . . .	78	-	79	-	-	-
Chadwick, Josephine T.	85	86	-	-	-	-	Flagg, Linna B. . . .	78	79	-	-	-	-
Clark, Florence G. . .	85	-	-	-	-	-	Flagg, Hiram P. . . .	78	-	-	-	-	-
Comstock, Alma . . .	86	-	-	-	-	-	Folger, Lizzie M. . . .	79	81	-	-	-	-
Carr, Mary E. . . . .	86	-	-	-	-	-	Furbush, M. Josephine	79	80	-	81	-	81
Condon, Harriet D. .	86	-	-	-	-	-	Fairbanks, Harold W. .	80	-	-	-	-	-
Collins, Ida . . . . .	86	-	-	-	-	-	Ferson, Earl B. . . .	80	82	81	83	83	83
Coggeshall, Elizabeth C.	86	-	-	-	-	-	Field, Luisa M. . . . .	80	-	-	-	-	-
Calderwood, James . .	86	-	-	-	-	-	Falk, Albion W. . . .	83	-	-	-	-	-
Camfill, Florence J. .	87	-	-	-	-	-	Frost, Clara D. . . .	84	-	-	-	-	-
Capen, Florence J. . .	87	-	-	-	-	-	Fuller, Lucretia J. . .	84	86	-	-	-	-
Clark, Edith N. . . .	87	-	-	-	-	-	Friend, Nannie S. . .	85	-	-	-	-	-
Clifford, May L. . . .	87	-	-	-	-	-	Fifield, Alice M. . . .	85	-	-	-	-	-
Creveling, Lizzie . . .	87	-	-	-	-	-	French, Fanny T. . . .	86	-	-	-	-	-
Dean, Walter L. . . .	74	-	-	-	-	-	Fleming, A. Barbara .	86	-	-	-	-	-
Dudley, L. Hannah . .	74	-	-	-	-	-	Frizzell, Joseph A. . .	86	-	-	-	-	-
Day, Lizzie G. . . . .	75	78	80	81	81	81	Ferris, Allyne E. . . .	87	-	-	-	-	-
Dupree, Annie E. . . .	76	-	-	-	-	-	Frederick, Frank F. .	87	-	-	-	-	-
Dimock, Elizabeth F. .	76	-	-	-	-	-	Goodnough, Walter S.	74	-	-	-	-	-
Dupree, Octavia G. . .	76	79	-	-	-	-	Green, Michael J. . . .	75	-	-	-	-	-
Davis, Annie M. . . .	77	78	79	78	79	79	Gardner, Ella L. . . .	76	-	-	-	-	-

\* Deceased.



MASSACHUSETTS NORMAL ART SCHOOL.

NAME OF STUDENT	CLASS. CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.
	A.	B.	C.	D.				A.	B.	C.	D.		
Gotte, Jean M. . . . .	76	78	-	-	-	-	Harding, Emily E. . . .	83	85	-	86	-	86
Greenwood, Louis A. . .	76	77	-	-	-	-	Haskell, Jennie P. . . .	84	86	-	86	-	86
Green, Ella C. . . . .	77	78	80	79	80	80	*Harlow, Beatrice B. . .	85	-	-	-	-	-
Geer, Grace W. . . . .	78	-	-	-	-	-	Hurlbut, Martha A. . . .	85	-	-	-	-	-
Grigg, Anna F. . . . .	78	-	-	-	-	-	Hammond, Mary A. . . .	85	87	-	-	-	-
Goddard, Annie F. . . .	78	-	-	-	-	-	Hersey, Fred W. . . . .	85	-	85	-	85	-
Gilman, Mary A. . . . .	79	-	-	-	-	-	Hurlbut, Mary A. . . . .	86	-	-	-	-	-
Graves, Albert M. . . .	80	81	83	82	83	83	Howard, Bessie B. . . .	86	-	-	-	-	-
Guild, Alice E. . . . .	80	82	-	-	-	-	Halden, John C. . . . .	86	-	-	-	-	-
Gardner, Harriet E. . .	81	83	-	-	-	-	Hayward, Josiah P. . . .	87	-	-	-	-	-
Gay, Emma J. . . . .	82	83	-	-	-	-	Harrington, Enos B. . . .	87	-	-	-	-	-
Gillam, C. Marguerite . .	82	-	-	-	-	-	Hurd, Mabeth . . . . .	87	-	-	-	-	-
Gendrot, Julia A. . . .	84	-	-	-	-	-	Hyams, Sarah A. . . . .	87	-	-	-	-	-
Gendrot, Albert F. . . .	84	-	-	-	-	-	Hobbs, Minnie L. . . . .	87	-	-	-	-	-
Gauthier, Julie C. . . .	84	-	-	-	-	-	Johnson, Mary E. . . . .	75	77	-	-	-	-
Gregg, Jennie W. . . . .	85	86	-	87	-	87	Joslyn, Mary E. . . . .	75	78	-	-	-	-
Goddard, Mina K. . . . .	85	86	-	-	-	-	Jepson, George . . . . .	75	-	-	-	-	-
Gilman, Alice C. C. . . .	86	-	-	-	-	-	Jennison, Lucia N. . . .	81	-	-	-	-	-
Guenther, Rudolph . . .	86	87	-	-	-	-	Jackson, Jennie M. . . .	83	-	-	-	-	-
Gilman, Mary E. . . . .	86	-	-	-	-	-	Judkins, William L. . . .	85	-	86	-	86	-
Green, Mary L. . . . .	87	-	-	-	-	-	Jaques, Martha F. . . . .	85	86	-	-	-	-
George, Blanche I. . . .	87	-	-	-	-	-	Jewett, Sarah E. . . . .	86	-	-	-	-	-
Hoyt, Deristhe L. . . .	74	75	-	77	-	77	Kingsbury, Edward R. . .	76	77	-	-	-	-
Hooper, Wm. P. . . . .	75	-	-	-	-	-	Kaan, Emma W. . . . .	81	84	-	85	-	85
Hintz, Bertha W. . . . .	75	-	-	-	-	-	Kimball, Emily . . . . .	85	86	-	87	-	87
Hitchings, Henry . . . .	75	-	-	-	-	-	Kendall, Charlotte A. . .	85	86	-	-	-	-
Hollis, Cynthia E. . . .	76	77	81	80	81	81	Kimball, Lucelia A. . . .	87	-	-	-	-	-
Holmes, Anna C. . . . .	76	-	-	-	-	-	Locke, Emma F. . . . .	74	79	79	80	80	80
Hammond, Geo. F. . . . .	76	-	-	-	-	-	*Lord, John D. . . . .	74	-	-	-	-	-
Hill, Louise M. . . . .	76	78	-	-	-	-	Loring, George A. . . . .	75	-	-	-	-	-
Holmes, Olivia S. . . . .	76	-	-	-	-	-	Loring, Susan A. W. . . .	76	-	-	-	-	-
Hapgood, Melvin P. . . .	76	-	-	-	-	-	Locke, Josephine C. . . .	77	81	-	-	-	-
Howard, Mary . . . . .	76	77	79	79	79	79	Lovering, Ella M. . . . .	79	80	82	81	82	82
Howard, Adelia K. . . . .	76	-	-	-	-	-	Lamb, F. Mortimer . . . .	80	81	-	82	-	-
Halcott, Calista . . . . .	77	-	-	-	-	-	Langley, Annie W. . . . .	80	-	-	-	-	-
Holmes, Henry . . . . .	77	-	-	-	-	-	Little, Abbie H. . . . .	80	82	-	-	-	-
Horsford, Gertrude H. . .	77	-	-	-	-	-	Laughlin, Ada M. . . . .	82	-	-	-	-	-
Howard, G. M. . . . .	77	-	-	-	-	-	Lewis, Jennie F. . . . .	82	84	86	85	86	86
Huntington, Carrie M. . .	77	78	79	80	80	80	Livingston, Cora J. . . .	83	84	-	-	-	-
Holland, Chas. J. . . . .	78	-	-	-	-	-	Lawrence, Chas. A. . . .	84	-	-	-	-	-
Hill, Carrie N. . . . .	79	-	-	-	-	-	La Pierre, A. Lillian . . .	86	-	-	-	-	-
Hamilton, Edward W. . .	80	81	82	83	83	83	Lane, John A. . . . .	87	-	-	-	-	-
Hersey, Ada H. . . . .	80	83	-	-	-	-	Lord, D. Franklin . . . .	87	-	-	-	-	-
Hersey, Clara . . . . .	80	-	-	-	-	-	Miller, Leslie W. . . . .	74	80	-	-	-	-
Hildreth, Mary E. . . . .	80	82	-	-	-	-	Mansfield, Mary . . . . .	75	75	-	-	-	-
Holden, Alice E. . . . .	80	-	-	-	-	-	Marble, J. M. . . . .	75	-	-	-	-	-
Horten, Helen . . . . .	80	-	-	-	-	-	Mason, Wm. A. Jr. . . . .	75	80	79	80	80	80
Hutchings, Lydia A. . . .	80	-	-	-	-	-	Marsh, Helen F. . . . .	76	-	-	-	-	-
Herrick, Lizzie A. . . . .	81	84	-	-	-	-	Mansfield, Frank . . . .	77	-	-	-	-	-
Hewins, Ellen A. . . . .	81	-	-	-	-	-	Moon, Mintie . . . . .	77	79	-	-	-	-

\* Deceased.



NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.
	A.	B.	C.	D.				A.	B.	C.	D.		
Munsell, Albert H. . .	77	79	80	81	81	81	Perry, Chas. H. . . .	77	-	-	-	-	-
Merriam, Ada A. . .	78	-	-	-	-	-	Porter, George M. . .	77	-	-	79	-	-
Molineux, Henrieta . .	78	-	-	-	-	-	Page, Henrietta . . .	78	-	-	-	-	-
Mellen, Laura M. . .	79	-	-	-	-	-	Parker, Emma T. . . .	78	-	-	-	-	-
Merritt, Jennie M. . .	80	82	-	-	-	-	Prichard, John A. . .	78	79	80	79	80	80
Metcalf, Emma F. . .	80	-	-	-	-	-	Prince, Flora . . . .	78	-	-	-	-	-
Morris, George E. . .	80	81	82	83	83	83	Piper, Edwin D. . . .	79	-	81	-	-	-
Meisel, Jennie M. . .	81	83	-	-	-	-	Poole, Jennie A. . . .	80	-	-	-	-	-
Mills, Alice . . . .	81	-	-	-	-	-	Poor, Henry W. . . .	80	81	83	82	83	83
Martin, H. Isabel . .	81	82	-	-	-	-	Page, Hollis B. . . .	81	-	-	-	-	-
Munsell, Ida E. . . .	82	84	-	85	-	85	Pillsbury, E. . . . .	81	-	-	-	-	-
MacNeil, Herman A. .	83	85	84	86	86	86	Pond, Adeline V. . . .	81	82	-	83	-	83
Mason, Alice C. . . .	83	-	-	-	-	-	Paekard, Fred C. . . .	82	-	-	-	-	-
Mann, Josephine B. .	84	-	-	-	-	-	Page, Edith . . . . .	83	-	-	-	-	-
Mendum, Mary E. . .	84	-	-	-	-	-	Peterson, Georgia . .	83	-	-	-	-	-
MacLauthlin, Rena . .	84	86	-	-	-	-	Perkins, Bessie H. . .	85	-	-	-	-	-
Murray, Henry D. . .	84	-	86	-	86	-	Prinee, Jessie N. . . .	85	-	-	-	-	-
Matthews, Joseph D. .	84	-	-	-	-	-	Pitblado, Grace . . .	86	-	-	-	-	-
McCarthy, John . . .	85	-	-	-	-	-	Parker, Emma M. . . .	87	-	-	-	-	-
Mendum, Charlotte E.	85	87	-	-	-	-	Perry, Elizabeth H. . .	87	-	-	-	-	-
Mosman, Fidia E. . .	85	-	86	-	-	-	Roos, Peter . . . . .	74	-	-	-	-	-
Meyer, Marie L. . . .	85	-	-	-	-	-	Robbins, Sarah H. . .	75	-	-	-	-	-
McIntosh, Fannie C. .	85	-	-	-	-	-	Rose, Eben . . . . .	75	79	79	78	79	79
MaeWhorter, Jennie W.	85	-	-	-	-	-	Roys, Viola G. . . . .	76	-	-	-	-	-
Murphy, May A. . . .	85	86	-	-	-	-	Radford, Helen L. . .	78	-	-	-	-	-
Nolen, Caroline . . .	74	-	-	-	-	-	Rich, Delia C. . . . .	78	-	-	-	-	-
Norcross, Ella A. . .	75	77	-	-	-	-	Richards, W. F. . . .	78	-	-	-	-	-
Nason, M. E. . . . .	77	-	-	-	-	-	Richardson, Theo. J. .	79	-	-	-	-	-
Norton, Dora M. . . .	79	80	81	-	-	-	Rodman, Warren A. . .	79	-	-	-	-	-
Needham, Ellie . . .	81	-	-	-	-	-	Richards, Mary F. . .	80	82	-	-	-	-
Noyes, Frank H. . . .	84	86	86	87	86	87	Roberts, Walton H. . .	81	-	-	-	-	-
Nye, A. Maud . . . .	84	85	86	87	86	87	Robinson, Wm. S. . . .	81	83	82	84	84	84
Norton, Susie M. . . .	85	87	-	87	-	87	Rice, Abby E. . . . .	83	86	84	-	84	-
Norwood, Annie F. . .	86	87	-	-	-	-	Roberts, Gertrude . .	84	87	85	-	85	-
Norton, Georgia L. . .	87	-	-	-	-	-	Rowland, Emma E. . .	85	-	-	-	-	-
Oakes, S. Pierce . . .	75	-	-	-	-	-	Rowell, B. Howard . .	87	-	-	-	-	-
O'Connor, Minnie . .	79	-	-	-	-	-	Raymond, Alice L. . .	87	-	-	-	-	-
O'Brien, Arthur F. . .	85	87	-	87	-	87	Robinson, Catherine .	87	-	-	-	-	-
Pierce, Osborn J. . . .	74	-	-	-	-	-	Rice, Natalie L. . . .	87	-	-	-	-	-
Putnam, Benj. W. . . .	74	75	-	-	-	-	Shaw, Annie F. . . . .	75	77	-	-	-	-
Parker, Frank G. . . .	75	-	-	-	-	-	Spalter, A. Maria . . .	75	-	-	-	-	-
*Patten, Arthur C. . .	75	77	76	77	77	77	Stewart, Nellie W. . .	75	77	-	-	-	-
Peabody, Margie G. . .	75	-	-	-	-	-	Samders, Carrie H. . .	76	78	-	-	-	-
Perrin, Julia . . . .	75	-	-	-	-	-	Shepley, Annie B. . . .	76	-	-	-	-	-
Perry, Walter S. . . .	75	-	-	-	-	-	Starbuck, Francis M. .	76	-	-	-	-	-
Pitman, Sophia L. . .	75	76	-	-	-	-	Smith, Elmer B. . . . .	77	-	-	-	-	-
Palmer, Laura E. . . .	76	-	-	-	-	-	Sanborn, Arthur H. . .	78	-	-	-	-	-
Plaisted, Lilla M. . .	76	79	-	78	-	79	Shattuck, Katie E. . .	79	-	-	79	-	-
Parsons, Caroline L. .	77	78	-	-	-	-	Sherman, Lillie L. . . .	78	-	-	-	-	-
Parsons, Lydia A. . .	77	79	-	-	-	-	Smith, Elmira G. . . .	78	-	-	-	-	-

\* Deceased.

MASSACHUSETTS NORMAL ART SCHOOL.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.
	A.	B.	C.	D.				A.	B.	C.	D.		
*Stetson, Julia A. . .	78	79	-	-	-	-	Taylor, Antoinette P. .	86	87	-	-	-	-
Storer, Charles . . .	78	-	-	-	-	-	Talbot, Ella C. . . .	87	-	-	-	-	-
Stone, Josephine M. .	78	78	-	-	-	-	Titcomb, Mary B. . .	87	-	-	-	-	-
Simmons, Elizabeth J.	78	81	-	-	-	-	Upham, Esther M. . .	85	-	-	-	-	-
Stacey, John F. . . .	79	79	81	80	81	81	Upham, Alice B. . . .	87	-	-	-	-	-
Smith, Clara M. . . .	80	-	-	-	-	-	Upham, Lena L. . . .	87	-	-	-	-	-
Smith, May L. . . . .	80	81	-	82	-	82	Vomoh, Robert W. . .	77	78	-	79	-	79
Sherry, A. Fannie, . .	80	81	-	-	-	-	Vance, Carrie M. . . .	82	84	-	85	-	-
*Swasey, Josephine F.M.	80	-	-	-	-	-	Walker, Sophia A. . .	75	-	-	-	-	-
Scribner, A. W. . . . .	81	82	84	83	84	84	Whiton, Maria E. . . .	75	-	-	-	-	-
Sears, Kate B. . . . .	82	-	-	-	-	-	Ware, George Wild . .	76	-	-	-	-	-
Sears, Minnie P. . . .	82	-	-	-	-	-	Wellington, Leah N. .	76	77	-	78	-	-
Sherman, Mertie E. . .	82	84	-	-	-	-	Webster, Clara E. . . .	77	78	80	79	80	80
Slafter, Annie R. . . .	82	83	-	-	-	-	Webster, Addie L. . .	77	-	-	-	-	-
Stetson, M. Josie . . .	82	-	-	-	-	-	Woodman, George E. .	77	-	-	-	-	-
Sweeney, Thomas E. . .	82	83	84	85	85	-	Watson, Lucretia S. .	78	-	-	-	-	-
Sanborn, Lizzie M. . .	83	85	84	86	86	-	Webster, M. Isabel . .	78	80	-	-	-	-
Skinner, Wm. L. . . . .	83	84	86	85	86	-	*Webster, Clara E. . .	78	-	-	-	-	-
Smith, Fannie H. . . .	83	85	-	-	-	-	Wellington, Sarah H. .	78	-	-	-	-	-
Spaulding, Alice Mande	84	85	-	-	-	-	Whitney, Lizzie E. . .	78	79	-	-	-	-
Smith, Mary B. . . . .	85	-	86	-	86	-	Whitney, Chas. F. . .	78	-	-	-	-	-
Smith, Mollie . . . . .	85	-	-	-	-	-	White, Abbie M. . . .	78	-	-	-	-	-
Smith, Emma F. . . . .	85	-	-	-	-	-	Wild, Mary E. . . . .	78	-	-	-	-	-
Stephens, Kate . . . .	85	-	-	-	-	-	Williams, Maria F. . .	78	-	-	-	-	-
Sinclair, Annie N. . .	85	86	-	-	-	-	Wiley, Emma I. S. . .	78	-	-	-	-	-
Smith, Nellie E. . . . .	86	-	-	-	-	-	Wilson, Clara . . . . .	79	80	83	81	83	83
Smith, Carrie E. . . . .	86	-	-	-	-	-	Whitcomb, Camilla G.	80	81	-	-	-	-
Snowe, Myrtle W. . . .	86	-	-	-	-	-	White, Sarah L. . . . .	80	-	-	-	-	-
Swain, Amy . . . . .	86	87	-	-	-	-	*Withey, Alice A. . . .	80	81	-	82	-	82
Starkweather, Sidney F.	86	-	-	-	-	-	Woods, Jennie A. . . .	80	82	-	-	-	-
Sanborn, Fred C. . . .	87	-	-	-	-	-	Woods, Florence . . .	80	-	-	-	-	-
Tufts, Abbie B. . . . .	74	-	-	-	-	-	Walker, Gertrude B. .	81	-	-	-	-	-
Taylor, Will L. . . . .	75	-	-	-	-	-	Walton, Mary . . . . .	81	-	-	-	-	-
Tucker, Emily J. . . .	75	-	-	-	-	-	White, Lucy F. . . . .	82	-	-	-	-	-
Thompson, Wm. A. . . .	76	-	-	-	-	-	Whitcomb, Fannie M.	82	-	-	-	-	-
Taft, Mary F. . . . .	77	-	-	-	-	-	Wilbar, M. Ella . . . .	82	-	-	-	-	-
*Thaxter, Thomas W.	77	-	-	-	-	-	Wilson, Lizzie E. . . .	82	-	-	-	-	-
Thompson, L. S. . . . .	77	-	-	-	-	-	Woodward, William . .	83	83	84	86	84	84
Torrey, Wm. F. . . . .	77	-	-	-	-	-	Wadsworth, Florence L.	84	-	-	-	-	-
Trask, Abbie J. . . . .	77	-	-	-	-	-	Weymouth, Georgia . .	84	-	-	-	-	-
Thomas, Ella A. . . . .	78	-	-	-	-	-	Wright, Ida M. . . . .	85	-	-	-	-	-
Titus, Lucy E. . . . .	80	-	-	-	-	-	Woodbury, Alice P. . .	85	87	-	-	-	-
Taylor, George . . . . .	81	82	-	-	-	-	Walsh, Lillian K. . . .	86	-	-	-	-	-
Todd, Emma . . . . .	81	83	-	84	-	84	Watson, Anna I. . . . .	87	-	-	-	-	-
*Tibbetts, Arthur L. . .	82	-	-	-	-	-	Willard, Alice F. . . .	87	-	-	-	-	-
Tilton, M. Bessie . . .	82	-	-	-	-	-	Whitman, Katherine D.	87	-	-	-	-	-
Titus, Sarah A. . . . .	83	-	-	-	-	-	Wilcombe, Nellie C. . .	87	-	-	-	-	-
Teed, Hannah J. . . . .	84	-	-	-	-	-	Young, Esther M. . . .	85	-	-	-	-	-

\* Deceased.

# Form of Application for Admission.

Date,

Name of applicant (in full),

Age,

Occupation,

Address,

Parents' Occupation,

One of the following forms is to be filled up, according to the circumstances of the applicant:—

1. I, \_\_\_\_\_ residing at

in the State of Massachusetts,

being desirous of becoming a qualified Teacher of Drawing, and intending to teach drawing in the said State, after passing the required examinations, hereby make application for admission to the Massachusetts Normal Art School, and engage to attend regularly, and to offer myself for examination at the end of the annual session, if permitted to do so; and, having read the rules and regulations of the School, agree to abide by them.

2. I, \_\_\_\_\_ of \_\_\_\_\_

not being a resident of the State of Massachusetts,—or, if a resident, having no intention of teaching drawing,—hereby make application for admission as a student of the Massachusetts Normal Art School, and will, upon admission, pay in advance the fees for instruction given each term; will also undertake to attend regularly during the time the School is open, and offer myself for examination at the end of the annual session, if permitted to do so; and, having read the rules and regulations of the School, agree to abide by them.

	1.	2.	3.	4.
	PREPARATORY CLASS AND CLASS A.	CLASS B.	CLASS C.	CLASS D.
Monday . . . . .				9 A.M. to 2 P.M.
Tuesday . . . . .				9 A.M. to 2 P.M.
Wednesday . . . . .				9 A.M. to 2 P.M.
Thursday . . . . .				9 A.M. to 2 P.M.
Friday . . . . .				9 A.M. to 2 P.M.

Divisions 2, 3 and 4 are only open to those students who have completed the drawings for Certificate A, unless entering as special students.

Applicants will underline the Division or Class, and also the time they wish to attend.

This form is to be filled and signed, and sent to

THE CURATOR NORMAL ART SCHOOL,

Corner of Newbury and Exeter Streets, Boston.

The examination for admission into the preparatory class will be in the subject of freehand outline drawing from copy, and for class A in the following subjects:—

1. Plane Geometry.
2. Perspective — parallel and angular.
3. Orthographic Projection.
4. Model Drawing (outline).
5. Model Drawing (shaded).
6. Historic Ornament (outline from cast).

The examinations will begin the third Monday in September at 10 A.M. Former students will assemble at 9 A.M.

Applicants will please fill out this form, detach it, and forward to the Principal.





September 11, 1913

Selling—ENGINEERING NEWS

## CONTRACTS TO

### Street Railway Franchise for Sale

Pursuant to an Ordinance of the General Council of the City of Covington, Kentucky, being Council Ordinance No. 9069, approved by the Mayor July 14th, 1913, the City Clerk will, on the 26th day of September, 1913, between the hours of Nine o'clock (9) A. M. and Half past five o'clock (5.30) P. M., at his office in the City Hall, Covington, Kentucky, receive bids for the franchise right and privilege to construct, operate and maintain a street railway system in the City of Covington, for the transportation of passengers and freight, operating cars propelled by electricity or motive power other than steam, for a period of twenty (20) years. Bids must be accompanied by a certified check for \$5,000.00 payable to the city of Covington. Checks will be returned upon the rejection of bids, and upon the execution of a bond in the sum of \$50,000.00 required by the ordinance to secure the faithful performance of the conditions of the franchise, and the payment of the cost of the advertisement of this ordinance, the check of the successful bidder will be returned. Approximately twenty-five (25) miles of track are authorized within the city limits, together with such extensions as the General Council may by ordinance hereafter authorize.

The successful bidder will be required, under the provisions of the franchise ordinance, to pay the City of Covington the following license tax, to-wit: for and during the first ten years of the term of the franchise, not less than Twenty-five Thousand (\$25,000.00) Dollars per year; and for and during the second ten years of the term of this franchise, not less than Fifty Thousand (\$50,000.00) Dollars per year, a total of Seven Hundred and Fifty Thousand (\$750,000.00) Dollars for the twenty year term of the franchise. Bidders must state in their bids that they will pay these amounts annually, and what amounts, if any, they will pay in excess thereof, for this franchise.

The General Council reserves the right to reject any and all bids.

Copies of the franchise ordinance and other information may be had by addressing the City Clerk, Covington, Kentucky.

H. G. KLOSTERMANN,  
City Clerk.

### Drainage System Extensions

Atlantic City, N. J.

Sealed proposals for the construction of extensions to the

Proposals  
the Waterway  
Jacksonville,  
Monday, Octo  
plete at the  
provided by  
and flywheel  
purtenances.

Proposals  
twelve millio  
gines with ca  
hours.

For specifi  
Carroll, Sup  
Jacksonville,  
dressed to th  
marked "Prop  
to reject any

Sealed bids  
Engineer in c  
nineteenth of  
tion of a Stra  
and specificat  
of Chicago, I

The bridge  
Water Way,  
across Barnes

A complete  
by the engine  
\$10.00. A cer  
each bid as a  
to reject any



## Nurses' Home

Ward's Island, N. Y.

**NOTICE TO CONTRACTORS.**—Sealed proposals for construction, heating, plumbing and electric work for the Nurses' Home at Manhattan State Hospital, Ward's Island, N. Y., will be received by the State Hospital Commission, Capitol, Albany, N. Y., until Three o'clock P.M. on Monday, Sept. 22, 1913, when they will be opened and read publicly. Bids will be required for each division of the work and no combination of bids will be considered.

Proposals shall be accompanied by certified check in the sum of 5% of amount of bid, and the contractor to whom award is made will be required to furnish surety company bond in the sum of fifty per cent. of amount of contract within thirty days after official notice of award of contract and in accordance with the terms of Specification No. 1619. The right is reserved to reject any or all bids.

Drawings and specifications may be consulted and blank forms of proposal obtained at Manhattan State Hospital, Ward's Island, N. Y., and at the office of the State Hospital Commission, No. 1 Madison Avenue, New York City, and at the office of the State Architect. Complete sets of plans and specifications will be furnished prospective bidders upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

State Hospital Commission,

J. H. B. HANIFY, Secretary.



## Book-Cases, Filing Cases, etc.

Albany, N. Y.

**NOTICE TO CONTRACTORS**—Sealed proposals for steel book-cases, filing cases, shelving, etc., for the State of New York, Department of Efficiency and Economy, in accordance with plans and specifications of Thomas Bruce Boyd, Advisory Expert, will be received by Hon. John H. Delaney, Commissioner, Department of Efficiency and Economy, Whitney Building, No. 95 Washington Ave., Albany, N. Y., until 12 o'clock M., Monday, September 15, 1913, when they will be opened and read publicly.

Proposals shall be accompanied by a certified check in the sum of 5 per cent. of the amount of bid, and the contractor to whom the award is made will be required to furnish Surety Company bond in the sum of 50% of the amount of contract within three days after official notice of award of contract. The right is reserved to reject any or all bids.

Drawings and specifications and blank forms of proposal may be obtained upon application to Thomas Bruce Boyd, No. 286 Fifth Ave., New York City, upon the deposit of a check in the sum of \$5.00 made payable to the State of New York, which check will be forfeited if the plans and specifications are not returned in good order and carriage paid to Thomas Bruce Boyd, No. 286 Fifth Ave., New York City. Plans and specifications may also be examined at the office of the Department of Efficiency and Economy, No. 95 Washington Ave., Albany, N. Y.

HON. JOHN H. DELANEY,

Commissioner.

September 11, 1913

Selling—ENGINEERING NEWS

## Power Plant Equipment

Ossining, N. Y.

NOTICE TO CONTRACTORS—Sealed proposals for boilers, steam apparatus and piping and for new power plant, new generating plant and electric feeder system for Sing Sing Prison, Ossining, N. Y., will be received by the undersigned, Superintendent of State Prisons, Capitol, Albany, N. Y., until 12 o'clock noon on Tuesday, September 30, 1913, when they will be opened and read publicly. Proposals shall be accompanied by certified check in the sum of 5% of amount of bid, and the contractors to whom awards are made will be required to furnish surety company bonds in the sum of 50% of amount of contract within thirty days after official notice of award of contract and in accordance with the terms of Specification No. 1730, and within ten days after official notice of award of contract and in accordance with the terms of Specification No. 1731. The right is reserved to reject any or all bids. Drawings and specifications may be consulted and blank forms of proposal obtained at Sing Sing Prison, Ossining, N. Y., and at the office of the State Architect. Complete sets of plans and specifications will be furnished prospective bidders upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

JOHN B. RILEY,

Superintendent of State Prisons.



## Sewer

Borough of Leonia, Bergen County, N. J.

Sealed proposals will be received at the Borough Hall until 8 P. M. Monday, the twenty-ninth day of September, 1913, for the construction of a Trunk Sewer and the construction of Disposal Works.

For particulars as to nature and extent of the work to be performed, bidders are referred to the plans and specifications which will be on file and may be examined at the office of the Borough Engineers, McClave & McClave, Borough Hall, Cliffside, N. J., or 1 Madison Ave., N. Y. City.

Each bid must be accompanied by a certified check upon a National Bank or Trust Company in good credit within the States of New York or New Jersey, drawn to the order of "The Borough of Leonia" to the amount of at least five (5) per cent. of the amount bid, or like amount in cash.

Each bidder will be required to give the name of a Surety Company or the names of Surety Companies that he will offer as bondsmen in each bid.

Upon the award of the contract to the successful bidder, he will be required to furnish a bond from a Surety Company, acceptable to the Mayor and Council for the full amount of the contract price, and to execute the contract within ten (10) days from the date of the award.

Bidders are required in making their proposals to use the blanks prepared for the purpose, which can be obtained at the offices of the Borough Engineers.

The Mayor and Council reserve the right to reject any or all bids.

H. M. THOMPSON,

Borough Clerk.

OFFICE OF

NOTICE TO

Sealed proposals for the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.

For the construction of a bridge over the Oneida river at Schroepfel, on or before the 30th day of Chapter 1913. For improvement of provisions for amendment of the charter of the City of Albany.



U. S. ENGINEER OFFICE, Cincinnati, O., August 29, 1913.  
—Sealed proposals for constructing Lock and Dam No. 35, Ohio River, near New Richmond, Ohio, will be received at this office until 2 p.m. (Central time), Sept. 30, 1913, and then publicly opened. Information on application. H. JERVEY, Lt.-Col. Engrs.

2, 1913.

DEPARTMENT OF THE INTERIOR, U. S. RECLAMATION SERVICE, Washington, D. C., August 25, 1913.—Sealed proposals will be received at the office of the United States Reclamation Service, at St. Ignatius, Montana, until 3 o'clock p.m., September 30, 1913, for the construction of about 53 miles of canals and laterals involving the excavation of about 366,000 cubic yards of material. The work lies between five and twelve miles southwest from Polson, Montana.

For particulars address the United States Reclamation Service, Washington, D. C.; Great Falls, Montana; or St. Ignatius, Montana. F. H. NEWELL, Director.

U. S. ENGINEER OFFICE, 337 Federal Building, Detroit, Mich., September 2, 1913.—Sealed proposals for dredging and clearing at upper end of Livingstone Channel, Detroit River, will be received at this office until 12 M., October 2, 1913, and then publicly opened. Information on application. MASON M. PATRICK, Lt. Col., Engineers.

U. S. ENGINEER OFFICE, Savannah, Ga., August 30, 1913.  
—Sealed proposals for constructing shore protection dikes in Savannah River, near Augusta, Ga., will be received at this office until 12 Noon (Eastern Standard Time), September 30, 1913, and then publicly opened. Information on application. DAN C. KINGMAN, Colonel, Engineers.

U. S. ENGINEER OFFICE, GALVESTON, TEXAS, Sept. 3, 1913.—Sealed proposals for Dredging in Texas City Channel, Texas, will be received at this office until 12 M., October 3, 1913, and then publicly opened. Information on application. C. S. RICHE, Lt. Col., Engrs.

U. S. ENGINEER OFFICE, GALVESTON, TEXAS, Sept. 3, 1913.—Sealed proposals for constructing a pile dike along the Texas City Channel, Texas, will be received at this office until 12 M. October 3, 1913, and then publicly opened. Information on application. C. S. RICHE, Lt. Col., Engrs.

U. S. ENGINEER OFFICE, Mobile, Ala., Sept. 6, 1913.—Sealed proposals for dredging channel connecting Mobile Bay and Mississippi Sound at Pass Aux Herons, Alabama, will be received at this office until 11 A.M. October 7, 1913, and then publicly opened. Information on application. R. T. WARD, Capt. Engrs.

U. S. ENGINEER OFFICE, Wilmington, Del., Sept. 5, 1913.  
—Sealed proposals for dredging Raccoon Creek, N. J., will be received here until 11 A. M., Oct. 6, 1913, and then publicly opened. Information on application. R. R. RAYMOND, Maj., Engrs.

U. S. ENGINEER OFFICE, FIRST DISTRICT, New York City, Room 710 Army Building, 39 Whitehall Street, New York, N. Y., September 6, 1913.—Sealed proposals for dredging and rock removal in Port Chester Harbor, N. Y., and in East Chester Creek, N. Y., will be received at this office until 12 M., October 6, 1913, and then publicly opened. Information on application. W. M. BLACK, Col. Engr's.

UNITED STATES ENGINEER OFFICE, Room 305 Southern Building, Washington, D. C., September 10, 1913.—Sealed proposals for dredging in Virginia Channel, Potomac River, D. C., will be received here until 12 M., October 14, 1913, and then publicly opened. Information on application. W. C. LANG-



# HIGH QUALITY

## INSTRUMENTS



**ENGINEERS  
IMPROVED**

Marked improvements over other levels. Position of telescope can be adjusted so as to have cross-hairs vertical horizontal.

**Y LEVEL**

Extra long, sensitive spirit levels. Strong Y's with improved locking device. Rigid construction without excess weight or clumsiness


Write for catalog showing full line of Engineer's and Draftsman's Instruments.

**KOLESCH  
& COMPANY**

**K**  
TRADE MARK

**NEW YORK**  
136 FULTON ST.

## 3 Miles Checked Within .007



"With my level I have run a distance of three miles between two U. S. Coast Survey benches and checked up within .007," writes Mr. Wm. McC Ransom, U. S. Civil Engineer, New London, Conn.

### H. & B. Transits

*"Mathematically Precise"*

Here's good proof of the close leveling work done by H. & B. instruments. Such great accuracy is the keynote of their 43 years' success. Find out how much they would do for you.

Let us send you complete information.  
Write for free book now.

**Heller & Brightly**  
Cor. Spring Garden St. and Ridge Ave.  
Philadelphia, U. S. A.  
*Established 1870.*



## Surveying Instruments

Bought, Sold, Exchanged, Rented and Repaired

Write us about our

## Drawing Room Supplies

*Illustrated Catalog E.*

**B. K. ELLIOTT COMPANY, 108 Sixth St., Pittsburgh, Pa.**

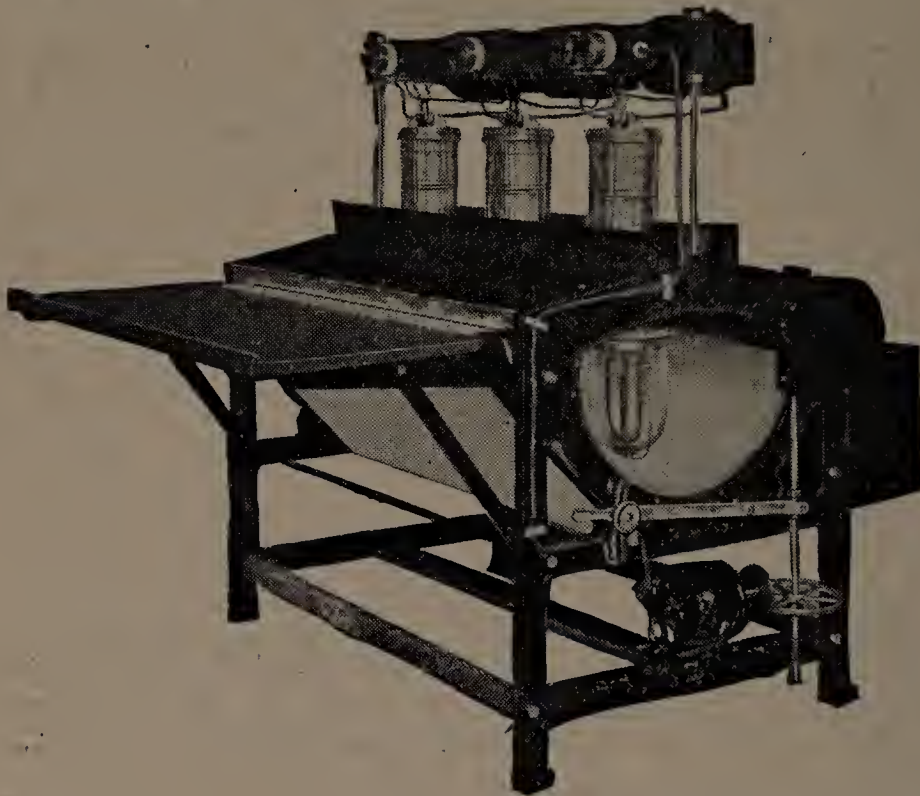
A  
fou  
pen  
low

YOU, Y  
why som  
that we  
stay in  
wished f  
pen. H  
ther tha  
line, for  
experime  
probably  
were fai  
is a per  
we offer

FO  
Dr

for just FIV  
that, if you  
any time wit  
This pen say  
time of the n  
You can con  
waste so muc  
You'll enjoy  
the rate you  
You'll enjoy  
when there's  
The reservoi  
QUICK OP  
adjustment o  
There's plea  
Pen. Obvie  
five dollars f





Let us figure on your blue print costs with the

## Paragon Blue Printing Machine

We will be glad to show you how this latest development in blue printing machinery can make faster, better, and cheaper prints for you.

Send us the details of your work and let us apply the Paragon method to help you.

Made in two sizes 42" printing, 30 sq. ft. per minute, 54" printing 40 sq. ft. per minute. Highest speed for current consumption perfect prints absolute satisfaction. These guaranteed.

**Paragon Machine Company**  
Rochester, N. Y.



## HIGGINS'

DRAWING INKS  
ETERNAL WRITING INK  
ENGROSSING INK  
TAURINE MUCILAGE  
PHOTO MOUNTER PASTE  
DRAWING BOARD PASTE  
LIQUID PASTE  
OFFICE PASTE  
VEGETABLE GLUE, ETC.

**ARE the FINEST and BEST GOODS of THEIR KIND**

Emancipate yourself from the use of corrosive and ill-smelling inks and adhesives and adopt the Higgins Inks and Adhesives. There will be a saving.



# DIRECTORY OF CONSULTANTS

## NEW ENGLAND

**Adams, H. S.,**

*Civil Engineer.*

Wharf and Dock Construction.  
River and Harbor Works.

108-9 Ames Bldg., Boston, Mass.

**Barbour, F. A.,** M.Am.Soc.C.E.  
M.Can.Soc.C.E.

*Consulting Engineer.*

Water Supply, Water Purification,  
Sewerage and Sewage Disposal.

Tremont Bldg., Boston, Mass.

**Gray, Samuel M.,**

Consulting Engineer for Municipal  
and Sanitary Work. Room  
933 Grosvenor Building.  
10 Weybosset St. Providence,  
R. I.

**Lockwood, Greene & Co.,**

*Architects and Engineers for  
Industrial Plants.*

Textile Plants, Power Plants,  
Hydraulic Developments, Appraisals,  
Financial Reports, Reorganizations.

60 Federal St. Boston.

Rhodes Bldg. Atlanta.

First Nat'l Bank Bldg., Chicago.

101 Park Ave. New York.

**Main, Charles T.,** M.Am.Soc.  
M.E.

Plans and specifications for Textile  
Mills and other Industrial Plants,  
Water Power and Steam Power Development.  
Examinations and Reports on Plants  
with reference to their Value,  
Reorganization or Development.

201 Devonshire St. Boston.

**Miller, Hiram Allen,** M.Am.Soc.  
C.E.

*Consulting Engineer.*

Thirty Years Experience. Expert  
Work a Specialty.

8 Beacon Street, Boston, Mass.

**Weston, Robert Spurr,**

M.Am.Soc.C.E.

*Consulting Engineer.*

For Water Purification and Sewerage  
Disposal.

14 Beacon St., Boston, Mass.

## NEW YORK

**Bowman, Austin Lord**

M.Am.Soc.C.E. M.Am.Soc..ME.

*Consulting Engineer.*

Railroads, Bridges, General  
Structural Work, Reports, Plans,  
Estimates, Superintendence.

Telephone, 3431 Cortlandt.

Rooms 500-501, 165 Broadway,  
New York.

**City-Wastes Disposal Co.**

(Organized from Staff of Col.  
Geo. E. Waring, Jr.)

*Consulting Engineers.*

Specialists in Drainage, Sewerage  
and Sewage Disposal. Preliminary  
Investigations and Estimates,  
Surveys, Plans and Supervision.  
Sanitary Examinations and Reports.

**Diehl, Geo**

Associates  
Hoopes, J.  
Water Supply  
Disposal,  
and Pavement  
Engineering.  
575 Ellicott

**Ford, Baco**

Established

Act as Consulting  
Engineers  
Managers  
Public Utilities,  
Examinations,  
Reports a Specialty

115 Broad

**Forstall &**

*Engineers.*

Design, Construction,  
Gas and Electric

84 William  
City.

**Fuertes, Ja**

*Civil and Sanitary*

Water Supply  
Purification,  
Sewerage and  
Disposal.

140 Nassau

**Fuller, Geo**

*Consulting  
and Sanitary*

<div>er E.,</div> <div>Power and In-</div> <div>Reinforced Con-</div> <div>tion, Reports,</div> <div>New York.</div>	<div>Collins, Chas. E.,<div>Assoc.M.Am. Soc.C.E.</div></div> <div>Consulting Engineer on Water Power, Water Supply, Sewerage and Sewage Disposal.</div> <div>Drexel Building, Philadelphia, Pa.</div>	<div>Alvord, John W.,</div> <div>Burdick, Chas. B.,</div> <div>Consulting Engineers. Water Supply, Sewerage, Water Power. Hartford Bldg., Chicago.</div>
<div>ll,</div> <div>n.</div>	<div>Day &amp; Zimmermann,</div> <div>Successors to Dodge, Day &amp; Zimmermann.</div> <div>Engineers and Constructors of</div> <div>Industrial Plants and Public Utilities.</div> <div>611 Chestnut St., Philadelphia, Pa.</div>	<div>Allen &amp; Garcia Company,</div> <div>Andrews Allen C. E., John A. Garcia, E.M.</div> <div>Consulting Bridge, Structural and Mining Engineers.</div> <div>Plans, Specifications. Superin- tendence for Bridges and Struc- tures in Steel or Concrete. De- sign and Construction of com- plete Coal Mining Plants. Exa- mination, Reports and Apprai- sals of Coal Mining and other Properties.</div> <div>McCormick Bldg., Chicago.</div>
<div>an &amp; Far-</div> <div>ing. Sewerage,</div> <div>Drainage, etc.</div> <div>ew York, N. Y.</div>	<div>Duff, Samuel E.,</div> <div>Consulting, Designing and Super- vising Engineer.</div> <div>Appraisals, Reports.</div> <div>Empire Building, Pittsburgh, Pa.</div>	<div>Arnold Company, The,</div> <div>Bion J. Arnold, President.</div> <div>Engineers and Constructors.</div> <div>Electrical Civil, Mechanical. Reports and Estimates on Engi- neering Projects. Engineering.— Specifications and Plans Cover- ing Complete Properties. Con- struction of Complete Properties and Preliminary Operation of Finished Plant.</div> <div>105 South LaSalle Street, Chica- go, Illinois.</div>
<div>s, The J. G.,</div> <div>Managers</div> <div>iers</div> <div>ce, New York.</div>	<div>Fayette Engineering Co.,</div> <div>Civil, Mining and Consulting En- gineers.</div> <div>L. C. Meehling, E. L. Zearley.</div> <div>Coal, Coke Plants.</div> <div>Uniontown, Pa.</div>	<div>Brenneke &amp; Fay,<div>M.Am.Soc. C.E.</div></div> <div>Consulting Engineers.</div> <div>Steel and Concrete Bridges, Via- ducts and Buildings. Founda- tions. 1200-04 Fullerton Bldg., St. Louis.</div>
<div>M.Am.Soc.C.E.</div> <div>M.Am.Soc.M.E.</div> <div>r.</div> <div>Land Reclam-</div> <div>Building, New</div>	<div>Franklin &amp; Company,<div>M.Am. Soc.C.E.</div></div> <div>Civil and Constructing Engineers.</div> <div>Steam and Electric Railways, Ex- aminations and Reports, Con- crete and Structural Engineering.</div> <div>906-7-513 Crozer Building, Phil- adelphia, Pa.</div>	<div>Byllesby, H. M., &amp; Company</div> <div>(Incorporated)</div> <div>Purchase, Finance, Construct and Operate Electric Light, Gas, Street Railway and Water Power Properties.</div> <div>Examination and Reports.</div> <div>Utility Securities Bought and Sold.</div> <div>Insurance Exchange Bldg., Chi- cago. Trinity Bldg., New York.</div>
<div>onstruction.</div> <div>Operation.</div> <div>cing.</div> <div>lg., New York.</div>	<div>Kennedy, Julian,</div> <div>Engineer.</div> <div>Pittsburgh, Pa., U.S.A.</div> <div>Cable Address: "Engineer, Pitts- burgh."</div>	<div>Chase, Charles P.,</div> <div>Hydraulic Engineer, Sanitary Ex- pert. Water Works, Water Power, Sewerage. Chase Block, 123 Sixth</div>
<div>SEY</div>	<div>Knowles, Morris,<div>M.Am.Soc. C.E.</div></div> <div>Water Supply and Purification. Sewerage and Sewage Disposal. Investigations, Designs.</div> <div>Pittsburgh, Pa.; Birmingham, Ala.</div>	
<div>M.Am.Soc.C.E.</div> <div>ing Engineer.</div>	<div>Merritt Hydraulics Co.,</div> <div>Specialists in Sewage Pumping, Sewage Disposal and Sewer Flushing. Plans and Estimates.</div>	



<p><b>Hedrick &amp; Cochrane,</b> <sup>M.Am. Soc.C.E.</sup> <i>Designs, Estimates and Supervision of Steel and Reinforced Concrete and other structures.</i> 1118 McGee St., Kansas City, Mo.</p>	<p><b>Rosing, Anton S.,</b> <i>Civil Engineer.</i> Surveys, Estimates, Designs, Plans, Specifications, Supervision. 1327 Farwell Ave., Chicago, Ill.</p>	<p><b>Newcomb,</b> <i>Consulting Engineer.</i> Water Supply, Sewerage, Disposal, Examination of Plans. University, Va.</p>
<p><b>Hinchman, T. H., Jr.,</b> <i>Consulting Engineer.</i> Power Plants and Valuations. 710 Washington Arcade, Detroit, Mich.</p>	<p><b>Williams, Gardner S.,</b> M.Am.Soc.C.E. M.Am.W.W.Assoc. M.N.E.W.W.Assoc.  Hydraulics, Water Power and Electrical Developments, Water Supply and Purification, Reports, Plans, Specifications, Surveys, Superintendence and Valuations.  Cornwell Bldg., Ann Arbor, Mich.</p>	<p><b>Ritchie, E.</b> <i>Engineer.</i> Municipal Engineer. Mechanics, Va.</p>
<p><b>Howard &amp; Roberts,</b> M.Am.Soc.C.E. A.R.E.Assn. <i>Consulting Engineers.</i> Railway yards and terminals, location, relocation, valuations, grade and line improvements. Effect on economics of operation. Transp. Bldg., Chicago.</p>	<p><b>SOUTHERN STATES</b></p>	<p><b>PACIFIC</b></p>
<p><b>Luten, Daniel B.,</b> <i>Designing and Consulting Engineer.</i> Reinforced Concrete Bridges. Over 4500 erected. Associate Engineers in all States. Indianapolis.</p>		<p><b>American Engineering Corporation</b> C. E. Gruns All Branches Mechanics, Va. San Francisco, Cal.</p>
<p><b>Maury, Dabney, H.,</b> M.Am.Soc.C.E. M.Am.Soc.M.E. <i>Consulting Engineer.</i> Water Works, Power Plants, Sewerage, Appraisals. 1137-S Monadnock Bldg., Chicago.</p>	<p><b>Brown &amp; Clarkson,</b> W. N. Brown C. D. S. Clarkson. <i>Civil and Mining Engineers.</i> Specialists in Topographic Engineering. Southern Bldg., Washington, D. C.</p>	<p><b>Ford, Bacon</b>  See New York.  85 Second St. Cal.</p>
<p><b>Metcalf &amp; Eddy,</b> <sup>Consulting Engineers.</sup> Water Works, Sewerage, Disposal of Sewage and Industrial Wastes. Supervision of Operation. Valuations. 14 Beacon Street, Boston, Mass. Harris Trust Bldg, Chicago, Ill.</p>	<p><b>Dabney Engineering Co.,</b> The, <sup>M.Am.Soc.C.E.</sup> T. G. Dabney. A. L. Dabney. Municipal Improvements, Drainage. 81 Porter Bldg., Memphis, Tenn.</p>	<p><b>Fowler, Charles</b> M.Am.Soc.C.E. <i>Consulting Engineer.</i> Sewerage, Water Works, River and Harbor Engineering. 501 Central U. S. A.</p>
<p><b>McCullough, Ernest,</b> M.Am.Soc.C.E. M.W.S.E. <i>Industrial and Sanitary Engineer.</i> Factories; Power Plants; Sewage; Water Supply. 1302 Monadnock Block, Chicago, Ill.</p>	<p><b>Elrod, Henry E.,</b> M.Am.Soc.M.E. Assoc.M.Am.Soc.C.E. Mechanical and Structural Engineering, Inspections, Reports and Superintendence. Southwestern Life Building, Dallas, Texas.</p>	<p><b>Hammatt, V.</b> <i>Consulting Engineer.</i> Irrigation, Water Works, Power. 802 Hearst Cal.</p>
<p><b>McMeen and Miller,</b> (Incorporated.) S. G. McMeen K. B. Miller L. S. Keith <i>Electrical and Mechanical Engineers.</i> 1454 Monadnock Block, Chicago.</p>	<p><b>Ford, Bacon &amp; Davis,</b>  See New York.  921 Canal Street, New Orleans, La.</p>	<p><b>CALIFORNIA</b></p>
<p><b>Perkins Engineering Co.,</b> Edmund T., <i>Consulting and Supervising Engineers.</i> Agricultural, Drainage, Flood Protection, Irrigation.</p>	<p><b>Hatton, T. Chalkley,</b> <sup>M.Am. Soc.C.E.</sup>  <i>Civil and Sanitary Engineer.</i></p>	<p><b>Robinson, A.</b> M.Am.Soc.C.E. <i>Mechanical Engineer.</i> Machinery Designed for S.</p>

University School of Science,  Civil, Mechanical Engineering.  For other in- formation, Chas. Henry  New York City.	Montana State School of Mines,  Located in a Great Mining Dis- trict. Thorough course of four years in Mining and Metallurgy equips young men for immediate service in Mines and Reduction Works. For information ad- dress Registrar.  Butte, Montana.	Northwestern University College of Engineering, Five years of broad, thorough training, small classes, in which each student receives an unusual amount of individual attention from head professors. Splendid new building, designed for the purpose, with entirely new appa- ratus. Accessibility to great engineering projects. A new or- ganization unhampered by em- barrassing traditions. Write for "Best Preparation for Engineering." John F. Hayford 230 College of Engineering Bldg., Evanston, Ill.
Technic  Science. Engineering  Engineering (M. E.) Engineering (E. E.) Engineering (Ch. E.) Engineering (B. S.) Courses. Unsur- passed, Physical, Chemical and Ma- terials Laboratories.	College of Engineering, Courses in Civil, Mechanical Electrical, Mining, Sanitary, Mu- nicipal, and Architectural Engi- neering. Thorough, Practical, Economical. School in session the entire year. Enter any time. No Matriculation or Registration Fees. Expenses $\frac{1}{2}$ to $\frac{1}{2}$ less than at other first-class schools. Length of courses 2½ years. Experienced Instructors. Splendid Labora- tories. For Catalog, Bulletins or information address Albert Edwin Smith, President, Ohio Northern University, Ada, Ohio.	The Cards  appearing on these pages go before over twenty thousand people weekly.  You can enlarge your field of business at small expense through this directory.  New cards appear only with the first issue of each month.  Write for rates now.

## WHERE TO BUY

OF EVERYTHING USED IN CIVIL EN-  
GINEERING CONTRACTING WITH NAMES OF MAKERS

### Bridges and Buildings —Continued

Des Moines Bridge &  
Iron Co.  
Eastern Bridge & Struc-  
tural Co.  
Fort Pitt Bridge Works  
Kenwood Bridge Co.  
Lackawanna Steel Co.  
Massillon Bridge &  
Structural Co.  
McClintic-Marshall Con-  
struction Co.  
McMyler Interstate Co.  
Milwaukee Bridge Co.  
Minneapolis Steel & Ma-  
chinery Co.  
Missouri Valley Bridge  
& Iron Co.  
Morava Construction Co.  
Mt. Vernon Bridge Co.  
National Fire Proofing  
Co.  
Penn Bridge Co.  
Pennsylvania Steel Co.  
Phoenix Bridge Co.

### Buckets, Dredging

American Bridge Co  
Hayward Co., The  
Industrial Supply &  
Equipment Co.  
Industrial Works  
McMyler Interstate Co.  
Williams Co., G. H.

### Buckets, Grab

Brown Hoisting Machin-  
ery Co.  
Jeffrey Mfg. Co.  
Owen Bucket Co.  
Stuebner Iron Wks., G. L.  
Williams Co., G. H.

### Buckets, Orange Peel and Clam Shell

Browning Engr. Co.  
Hayward Co., The  
Industrial Supply &  
Equipment Co.  
Industrial Works  
Jeffrey Mfg. Co.  
McMyler Interstate Co.

### Cars, Dump

Koppel Co., Orenstein-  
Arthur  
Stuebner Iron Wks., G. L.  
Western Wheeled Scrap-  
er Co.

### Cars, Industrial

Chicago Concrete Ma-  
chinery Co.  
Ramapo Iron Works  
Smith Co., T. L.  
Stuebner Iron Wks., G. L.

### Cars, Spreader

Western Wheeled Scrap-  
er Co.

### Cars, Tank

Petroleum Iron Works

### Carts, Concrete

Chicago Concrete Ma-  
chinery Co.  
Ransome Concrete Ma-  
chinery Co.



September 4, 1913

*Selling*—ENGINEERING N

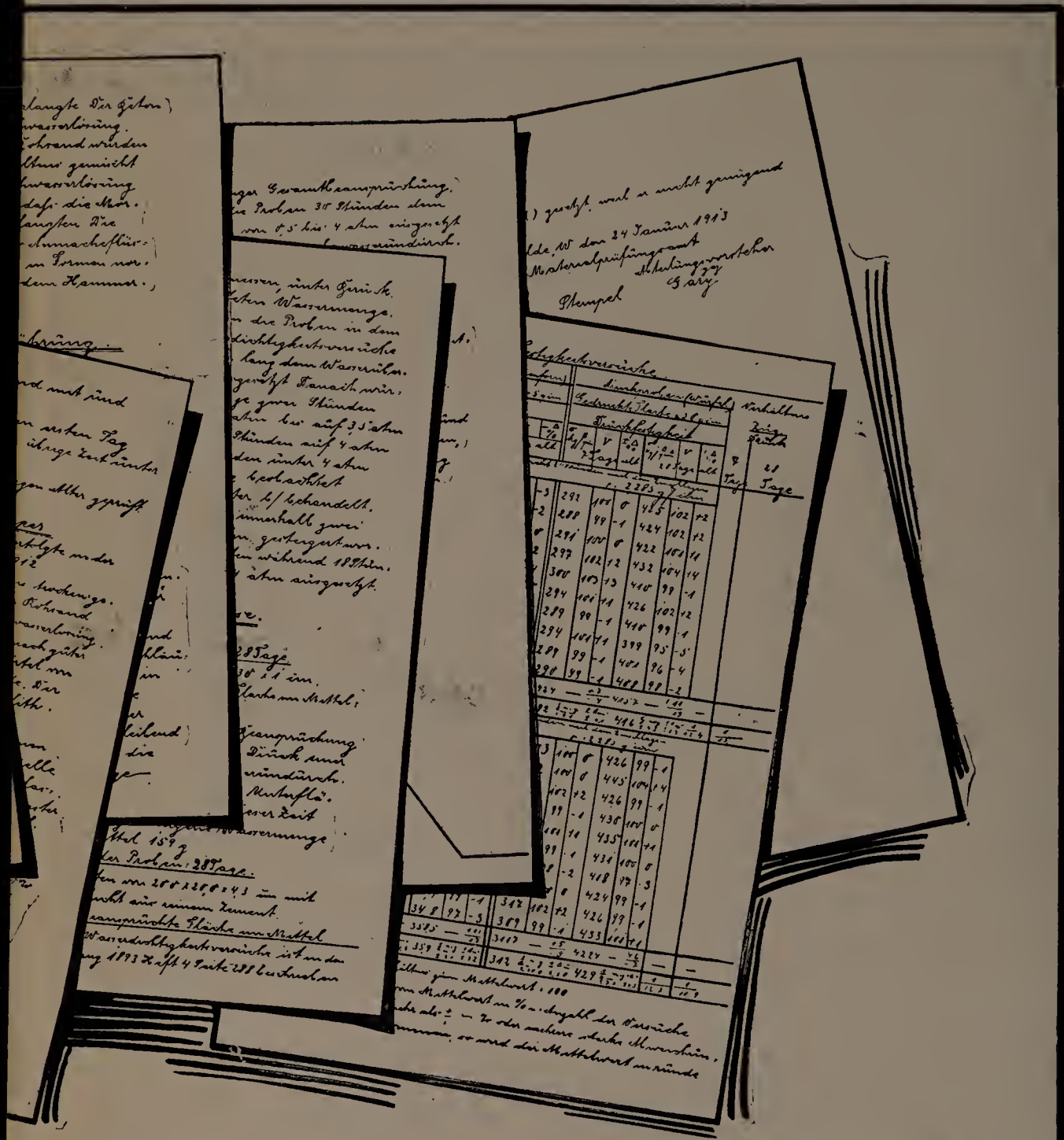


## These Are What You Ad —Never On Clever

Architects, Engineers and Owners should not  
of concrete pile that simply looks good on  
crete pile looks fairly good. It's what they  
that counts.

## Raymond Concr

are never shown by cleverly executed is do  
drawings or talked up by the use of lon- Nothing



# Testing Paste, Concentrated, Stands Tests of The Royal Testing Laboratories at Berlin, Germany

Berlin, Germany, purchased without the knowledge of The Trus-Con Laboratories, they submitted samples of this Paste under the name of "Kanolite" to the Royal Testing Laboratories as "Kanolite," now marketed in Germany as "Wassertrotz," and "Trus-Con" material, made from formulas devised and perfected by the construction and chemical laboratories.

Report of The Royal Testing Laboratories,  
Berlin—Lichterfelde—West

## IMPERMEABILITY.

...square of ground mortar of a mix of one





# Sheets 24" Wide

## SEVEN-RIB HY-RIB MARKS A NEW ADVANCE

A few years ago HY-RIB introduced a new and improved method eliminated, as well as the steel channels required with metal lath. THOUSANDS of HY-RIB in all parts of the world. A thorough study and investigation of the product known as "SEVEN-RIB HY-RIB."

The sheets are 24" wide, so that over twice as great an area is covered by the same amount of material. The ribs are made 1" deep, 3-16" deeper than FOUR-RIB HY-RIB as centering. SEVEN-RIB HY-RIB increases the universal usefulness of the product as the standard for economical construction.

## THREE DISTINCT TYPES

Type of HY-RIB	Gauge Nos. U. S. Stand.	Spacing of Ribs	Height of Ribs	Width of Sheets
7-Rib Hy-Rib	22, 24, 26 or 28	4"	1"	24"
3-Rib Hy-Rib	24, 26 or 28	7"	1 3/8"	14"
Deep-Rib Hy-Rib	22, 24 or 26	7"	1 1/2"	14"

Standard lengths: 6, 8, 10 and 12 feet.

In order to make the most efficient use of the material, it is also two other types of HY-RIB, which are particularly useful for long spans. THREE-RIB HY-RIB increases the amount of reinforcement required in ordinary partitions and walls with separate studs.

All three types of HY-RIB are used most efficiently and economically.

HY-RIB is being used everywhere for Sidings, Roofs, Floors, Partitions, etc.

If you intend to build, write for our Book containing illustrations, specifications, etc.



# TRUSSED CONCRETE STEEL

612 TRUSSED CONCRETE BUILDING,

Reinforced Concrete, Hy-Rib and Lath, Steel Sash, Waterproofing, etc.







THE ERIE RAILROAD BRIDGE of the NEW YORK  
over the Ohio River at Beaver, Pa. Weight 16,000 tons.

coated with CARBONIZING COATING Paint, all surfaces  
CARBONIZING COATING Paint, during 1911.

TING Paint consumed on the three (3) coats, 3638 gallons;

er gal., 12 1-4c. per ton, per coat

gal., 10 3-10c. per ton, per coat.

int in America, and one of the best painted structures in the





September 4, 1913

*Selling*—ENGINEERING N

## The kind of job to a lighting engineer

The Lehigh Valley Coal Company  
new steel breaker high up on Buc  
winds were high and other condit  
It was necessary that the lighti  
be excellent but how to get glass  
withstand the wind pressure wa  
question was answered through the

# Lupton Steel

*As strong as the wall*

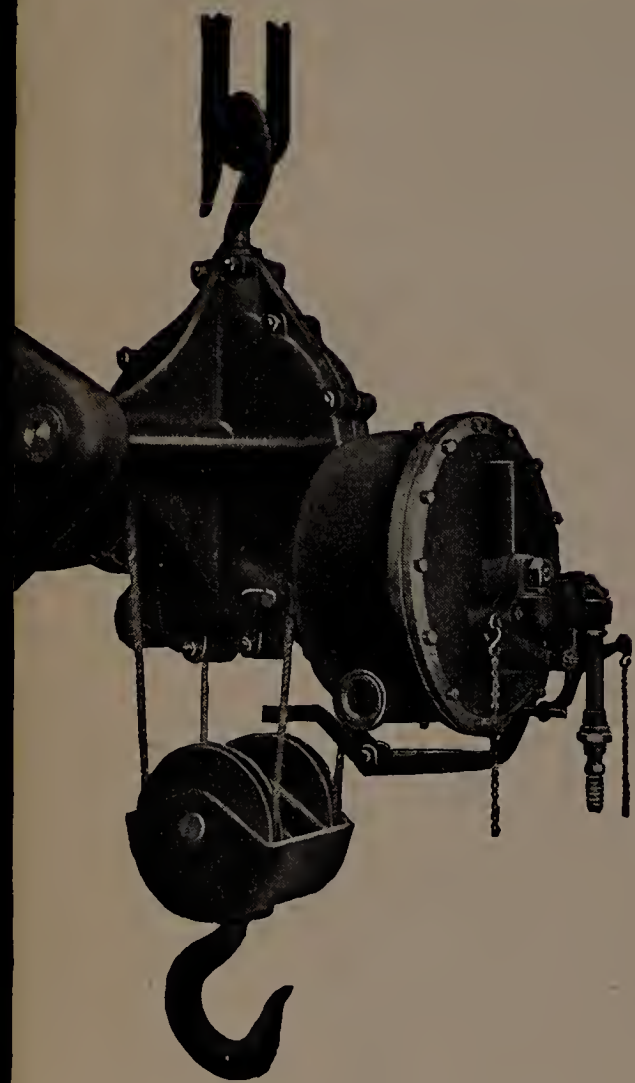
Planned and erected by L

The wisdom of the installation has been de  
The maintenance cost is extremely low—  
tilation are as efficient as they were mea  
pleased—so are the operators.

YOU need to know all about LUPTON STEEL  
SERVICE. You need to find out how it can be  
You need to learn the points on lighting that we

**This free book will inter**

Book No. 7 tells all about these  
gives tangible proof of Lupton  
You will appreciate Book No. 7.  
for it—now.



# Minute-Savers

Problem of every manufacturer is to increase the productive capacity of his working force. To crowd into every minute all the productive work possible—to get from every man the maximum of productive effort.

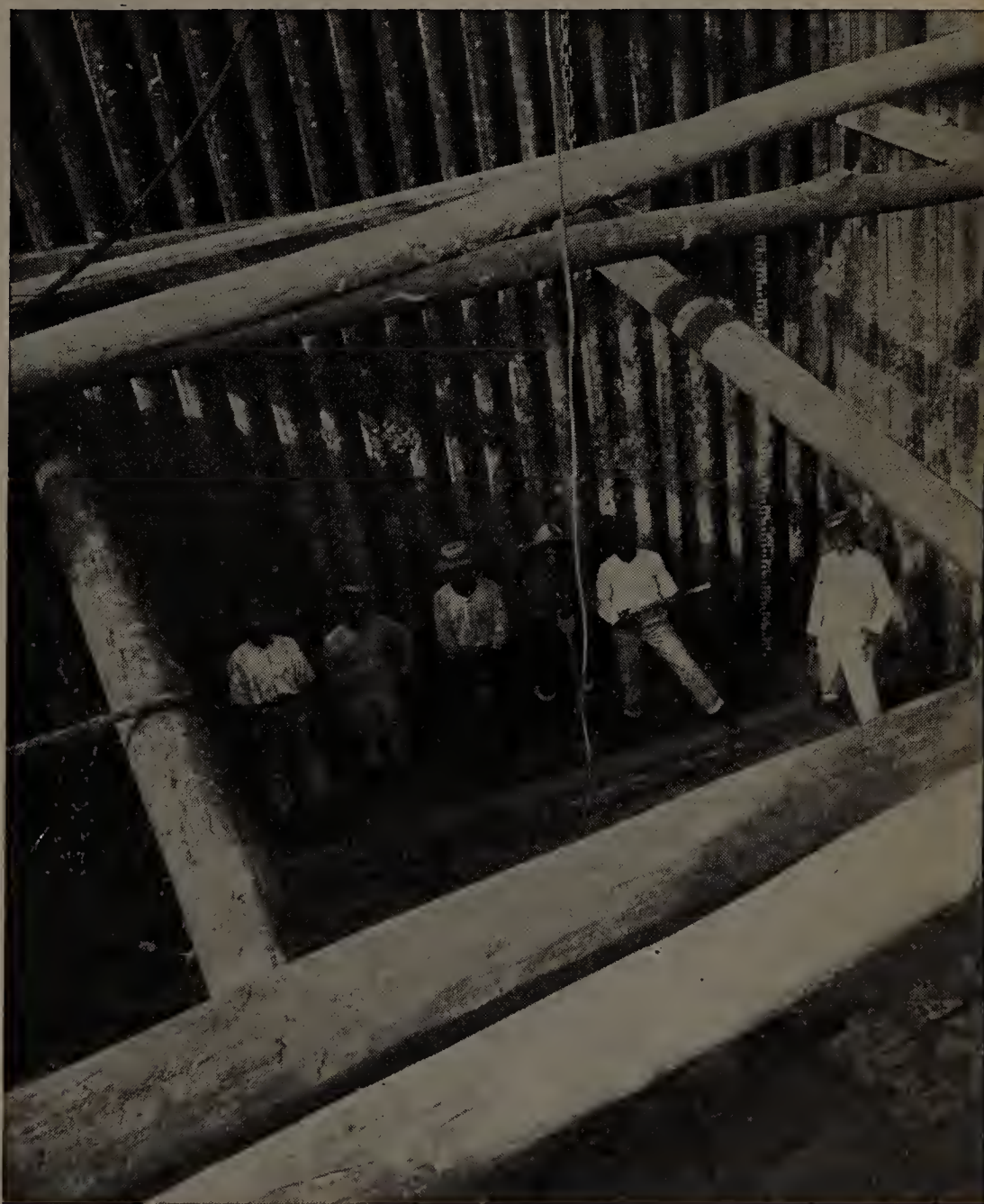
Time spent in lifting, moving, adjusting work is non-productive minutes. The



September 4, 1913

*Selling*—ENGINEERING NEWS

# A Remarkable Coffer-dam In P



Built With  
**Wemlinger Steel S**



# Quartz Of Didn't Crack



ter, from the user of the piece of  
pe illustrated above, speaks for itself.

ou a joint of  $5 \frac{3}{16}$ " casing for inspection. This  
ich was placed in a well near Gore, Ohio, after same  
ot. We decided to give the well a second shot, and  
of nitroglycerine with a 20-quart anchor shot. We  
fter getting it out, we discovered that one joint was  
ed to put the shot off with the hope that the joint of  
wing the shot. It, however, lodged about 1500 feet  
king with it for some few days we were able to put a  
brought out the joint in the condition that you have  
his well was 3000 feet deep and the  $6 \frac{5}{8}$ " casing was not  
pipe was sold through the National Supply Company).



# Nitro glyco "NATIONAL"

## MARKING

¶ To readily identify "NATIONAL" material; and as protection to manufacturer and consumer alike, the practice of National Tube Company is to roll in raised letters of good size on each few feet of every length of welded pipe the name "NATIONAL" (except on the smaller butt-weld sizes, on which this is not mechanically feasible). When writing specifications or ordering tubular goods, always specify "NATIONAL" Pipe.

# NATIONAL

Name Rolled in Raised Letters on National

## N. T. C. Bulletin

Describes the Good Features of

the big men, the men who are behind  
improving of the nation's highways—

TEND THE THIRD

# n Road Congress and Exposition

gan, Sept. 29-Oct. 4, 1913

des the annual conventions of

s'n American Automobile Ass'n  
n State Good Roads Ass'n

with the co-operation of

rio Good Roads Ass'n

ented have a combined membership of more than

## NDRED THOUSAND

ll include such papers as "The Treatment of Worn Out or  
aveled Macadam Surfaces" by Col. E. A. Stevens, State Highway  
rete Roads" by Hon. Frank F. Rogers, State Highway Commis-  
ures" by Mr. A. R. Hirst, State Highway Engineer of Wisconsin;  
stration" by Hon. John A. McIlhenny, President of the United  
mong others who will have papers are State Highway Engineers  
nd, Morley of Ohio, Johnson of Illinois, Wil- of Virginia



September 4, 1913

Selling—ENGINEERING NEWS



## This 1913 Buyer's R

Sent without charge to every reader of *Engineering News-Record* anxious to buy better materials than he is now getting.



When you write, down will go your name on the regular monthly mailing list of "Things Technical," a magazine published for technical men. It keeps you in close touch with the latest improvements made in equipment—it

This Buyer's Reference line completely and completely covers every draftsman, architect or mechanical engineer.

Send for the Buyer's Reference on your desk. When you just turn to your Buyer's Reference line does not you need, then compare price and the high long as sending for Reference does not



## PROVED CUBE MIXERS

capacity each. The output of this battery is almost 500 cu.yd. of concrete per hour, but it's a very small portion of the total or more Austin Cubes used on the Canal. 5,000,000 cu.yd. of concrete placed at Panama and the mixer to do the work was selected after tests. There's no going behind the decision of the Government which decided on the Austin "Cube" because **it mixes more concrete faster than any other mixer made.**

kneading—  
better than  
fact which  
the biggest

concrete jobs of the age—Panama, the Los Angeles Viaduct, and the Detroit River Tunnel. We've a very attractive booklet showing what the Austin Cube Mixer has done and how it does it.

ask for Catalog No. 2.

## Engineering & Contracting Company

Main Office—Railway Exchange Building, Chicago

Mass.

Western Penn. and Eastern Ohio Agent: J. S. Beckwith, Pittsburgh,



August 28, 1913

*Selling*—ENGINEERING NEWS



# A Low Priced In Water Flow

This new Flow Meter solves the problem of accurate expense the flow of hot or cold water in pipes.

It gives the total flow on a dial register similar and electric meters and in addition it gives instantaneous record drawn on a circular paper chart.

**Cranes, Wrecking**

—Continued

Industrial Works  
McMyler Interstate Co.  
Ohio Locomotive Crane  
Co.

**Creosoting**

American Creosote Wks.  
Barber Asphalt Paving  
Co. (Maurer)  
Carbolineum Wood Pre-  
serving Co.  
International Creosoting  
& Construction Co.  
Norfolk Creosoting Co.  
Republic Creosoting Co.  
Wyckoff Pipe & Creos-  
oting Co.

**Crushers and Pulverizers**

Acme Road Machinery Co.  
Austin Mfg. Co.  
Bacon, Earle C.  
Buchanan Co., C. G.  
Chicago Concrete Ma-  
chinery Co.  
Cresson-Morris Co.  
Jeffrey Mfg. Co.  
Robins Conveying Belt  
Co.  
Smidth & Co., F. L.  
Smith Co., T. L.  
Vulcan Iron Works  
(Wilkes-Barre)  
Western Wheel Scraper  
Co.

**Culverts, Metal**

American Rolling Mill  
Co.  
American Sheet & Tin  
Plate Co.  
Inland Steel Co.  
Lennon Flume Co.

**Curb and Curb and Gut-  
ter Forms**

Blaw Steel Construction  
Co.

**Cutting, Oxy-Acetylene**

Oxweld Acetylene Co.

**Cylinders, Steel**

National Tube Co.

**Dams**

Davis, William Russell

**Derricks**

American Bridge Co.  
Chicago Bridge & Iron  
Works  
Contractors' Plant Mfg.  
Co.  
Dobbie Foundry & Ma-  
chine Co.  
Flory Mfg. Co., S.  
Hayden Machinery &  
Supply Co.  
Hayward Co., The  
Lidgerwood Mfg. Co.  
McMyler Interstate Co.  
National Hoisting En-  
gine Co.  
Terry & Tench Co.

**Derrick Irons**

Dobbie Foundry & Ma-

**Drills, Core**

Cyclone Drill Co.  
Ingersoll-Rand Co.  
Keystone Driller Co.  
McKiernan-Terry Drill  
Co.

**Drills, Hammer**

Ingersoll-Rand Co.  
McKiernan-Terry Drill  
Co.

**Drills, Rock**

Ingersoll-Rand Co.  
McKiernan-Terry Drill  
Co.

**Dryers**

American Process Co.  
Bartlett & Snow Co., C. O.  
Dover Boiler Works

**Dynamite**

Keystone National Pow-  
der Co.

**Economizers**

Green Fuel Economizer  
Co.

**Elevators, Bucket**

Acme Road Machinery Co.  
Buchanan Co., C. G.  
Chicago Concrete Ma-  
chinery Co.  
Cresson-Morris Co.  
Jeffrey Mfg. Co.  
Link-Belt Co.  
Ohio Locomotive Crane  
Co.

Robins Conveying Belt  
Co.  
Smith Co., T. L.

**Elevators, Concrete**

Chicago Concrete Ma-  
chinery Co.  
Insley Mfg. Co.  
Koehring Machine Co.  
Ohio Locomotive Crane  
Co.  
Ransome Concrete Ma-  
chinery Co.  
Smith Co., T. L.

**Engineers, Consulting**

See Alphabetical Index

**Engines, Gas and Gasol-  
ine**

Hersey Mfg. Co.  
Mietz, August  
National Meter Co.  
National Transit Co.  
Otto Gas Engine Works  
Power & Mining Ma-  
chinery Co.  
Quincy Engine Co.

**Engines, Hoisting**

Brown Hoisting Machin-  
ery Co.  
Contractors Plant Mfg.  
Co.  
Dobbie Foundry & Ma-  
chine Co.  
Flory Mfg. Co., S.  
Hayden Machinery &  
Supply Co.  
Keystone Machine Co.

**Exhaust Heads**

Burt Mfg. Co.

**Expanded Metal**

General Fireproofing Co.  
Trussed Concrete Steel  
Co.

**Facings, Foundry**

General Electric Co.

**Filters, Oil**

Burt Mfg. Co.

**Filters, Water**

American Water Soft-  
ener Co.  
New York Cont'l Jewell  
Filtration Co.  
Norwood Engr. Co.  
Pacific Tank & Pipe Co.  
Pittsburg Filter Mfg. Co.  
Roberts Filter Mfg. Co.  
Simplex Valve & Meter  
Co.

**Fire Brick**

Didier March Co.  
Maurer & Son, Henry

**Fire Clay**

Didier March Co.

**Fireproof Doors**

Peelle Co., The

**Flooring**

Youngstown Iron &  
Steel Co.

**Flumes, Metal**

American Rolling Mill  
Co.  
American Sheet & Tin  
Plate Co.  
Inland Steel Co.  
Lennon Flume Co.

**Flush Tank Siphons**

Pacific Flush-Tank Co.

**Forms, Metal for Con-  
crete**

American Bridge Co.  
Blaw Steel Construction  
Co.  
Ransome Concrete Ma-  
chinery Co.

**Foundations**

Foundation Co.  
Great Lakes Dredge &  
Dock Co.  
MacArthur Concrete Pile  
& Foundation Co.  
Raymond Concrete Pile  
Co.

**Frogs and Switches**

Koppel Co., Orenstein-  
Arthur  
Ramapo Iron Works

**Furnaces, Annealing and  
Tempering**

American Gas Furnace  
Co.  
Arthur-Robus

**Furnaces, Gas**



August 28, 1913

Selling—ENGINEERING NEWS



## The Jeffrey Swing Hammer Pulverizer

Is the Ideal Grinder for Laboratory Use.  
Especially useful in sampling coal and various ores.  
Reduces material to a fine powder and thoroughly mixes it  
into one homogeneous mass.

Shipping Weight, 1100 lbs.  
Average Speed, 1200 r.p.m.  
Average Horsepower, 7.  
Average Capacity of coal, 1000 lbs. per hour.

Write for prices and Bulletin No. 46, giving full particulars.

8-28-13

**The Jeffrey Mfg. Co. Columbus, Ohio**

New York	Pittsburg	Chicago	St Louis
Boston	Canadian Wks.	Charleston, W.Va	Denver
Philadelphia	Montreal	Birmingham	Cleveland

## Record

They  
Brist  
temp  
stitut  
plest  
world

## The



# VISM

# LOONT

**Meters, Oil and Gas**  
—Continued.

Builders Iron Foundry  
Gamon Meter Co.  
Hersey Mfg. Co.  
National Meter Co.  
Pittsburg Meter Co.

**Meters, Water**

Bristol Co., The  
Buffalo Meter Co.  
Builders Iron Foundry  
Gamon Meter Co.  
Hersey Mfg. Co.  
National Meter Co.  
Neptune Meter Co.  
Pittsburg Meter Co.  
Simplex Valve & Meter Co.  
Thomson Meter Co.  
Worthington, Henry R.

**Mixers, Asphalt**

Foot Concrete Machinery Co.  
Smith Co., T. L.

**Mixers (Heated), Asphalt and Concrete**

Smith Co., T. L.

**Mixers, Cement**

Alexander Iron Works

**Mixers, Concrete**

Chicago Concrete Machinery Co.  
Foot Concrete Machinery Co.  
Koehring Machine Co.  
Monighan Machine Co.  
Ransome Concrete Machinery Co.  
Smith Co., T. L.

**Mixers and Ejectors (Grout)**

Ransome Concrete Machinery Co.

**Molds, Cement Testing**

Ulmer & Co., J. C.

**Molds, Pipe and Culvert**

Blaw Steel Construction Co.

**Motors, Electric**

Crocker-Wheeler Co.  
General Electric Co.

**Oxy-Acetylene Apparatus**

Oxweld Acetylene Co.

**Packing, Metallic**

Power Specialty Co.

**Paints**

Barrett Mfg. Co.  
Carbolineum Wood Preserving Co.  
Detroit Graphite Co.  
Republic Creosoting Co.  
Rinald Bros.  
Toch Bros.

**Paving Joint Filler**

Barrett Mfg. Co.

**Piles, Concrete**

Great Lakes Dredge & Dock Co.  
MacArthur Concrete Pile & Foundation Co.  
Raymond Concrete Pile Co.

**Pile Drivers**

Browning Engr. Co.  
Contractors Plant Mfg. Co.  
Goubert, A. A.  
Industrial Works  
McKiernan-Terry Drill Co.  
McMyler Interstate Co.  
Union Iron Works

**Piling, Sheet Steel**

Carnegie Steel Co.  
Jones & Laughlin Steel Co.  
Lackawanna Steel Co.  
Wemlinger Steel Piling Co.

**Pipe Coatings**

Standard Asphalt & Rubber Co.

**Pipe Covering**

Keasbey Mattison Co.  
Wyckoff & Son Co., A.

**Pipe Cutting and Threading Machinery**

Mark Mfg. Co.

**Pipe Fittings**

American Pipe & Construction Co.  
Builders Iron Foundry  
Central Foundry Co., The  
Kellogg Co., M. W.  
Millar & Son Co., Chas.  
National Tube Co.  
Standard Cast Iron Pipe & Foundry Co.  
United States Cast Iron Pipe & Foundry Co.  
Washington Pipe & Foundry Co.

**Pipe Fitting Tools**

Mark Mfg. Co.

**Pipe, Iron**

American Cast Iron Pipe Co.  
American Pipe & Construction Co.  
Central Foundry Co., The  
Clow & Sons, Jas. B.  
Drummond & Co., M. J.  
Fox & Co., John  
Glamorgan Pipe & Foundry Co.  
McWane Pipe Works  
Millar & Sons Co., Chas.  
United States Cast Iron Pipe & Foundry Co.  
Wood & Co., R. D.

**Pipe, Vitrified Clay**

International Clay Products Bureau  
National Fire Proofing Co.

**Pipe, Wood**

Michigan Pipe Co.  
Pacific Coast Pipe Co.  
Pacific Tank & Pipe Co.  
Portland Wood Pipe Co.  
Redwood Manufacturers Co.  
Standard Wood Pipe Co.  
Washington Pipe & Foundry Co.  
Wyckoff & Son Co., A.

**Plows**

Western Wheeled Scraper Co.

**Poles, Cross-arms, Etc. (Treated Wood)**

Berlin Mills Co.

**Poles, Tubular Steel**

American Bridge Co.  
National Tube Co.

**Powder**

Keystone National Powder Co.

**Power Transmission Machinery**

Bacon, Earle C.  
Jeffrey Mfg. Co.  
Jones & Laughlin Steel Co.  
Leffel Co., Jas.  
Link-Belt Co.

**Pumps, Air**

Buffalo Steam Pump Co.  
Cameron Steam Pump Works, A. S.

**Pumps, Air Lift**

Ingersoll-Rand Co.

**Pumps, Boiler Feed**

Buffalo Steam Pump Co.  
Cameron Steam Pump Works, A. S.  
Jeanesville Iron Wks. Co.  
Keystone Driller Co.  
McGowan, John H.  
National Transit Co.

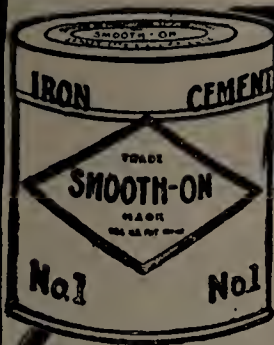
**Pumps, Centrifugal**

Alberger Pump & Condenser Co.  
American Well Works  
Buffalo Steam Pump Co.  
Cameron Steam Pump Co., A. S.  
Darling Pump & Mfg. Co.  
Jeanesville Iron Wks. Co.  
Lawrence Machine Co.  
Lawrence Pump & Engine Co.  
McGowan Co., John H.



August 28, 1913

Selling—ENGINEERING NEWS



# SMOOTH-ON

## IRON CEMENTS

*No. 1, No. 2 and No. 3.*

Permanently stop all leaks of steam, water, fire or oil, in iron or steel castings, boilers, tanks, piping, pumps, screw thread joints, flanged joints, etc.

Smooth-On No. 4 is unequalled for filling in blow-holes in iron or steel castings.

The Smooth-On Cements are easy to apply and make permanent repairs, proved by years in use.

Every engineer should read our new No. 12 illustrated instruction book—FREE, it tells when, where and how to use the different Smooth-On Cement. Send for it now.

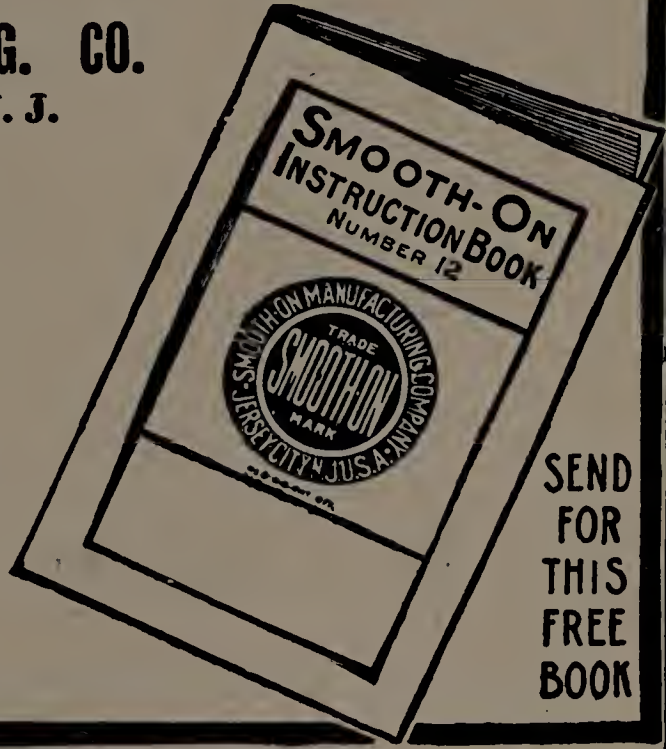
**SMOOTH-ON MFG. CO.**  
Jersey City, N. J.

221 N. Jefferson St.  
Chicago

36 Sacramento St.  
San Francisco

1221  
Westinghouse  
Bldg., Pittsburgh

8 White St.  
Moorfields, E. C.  
London



SEND FOR THIS FREE BOOK

*The Slogan*



# CAN

The most st  
istic of the  
They are "r

More t  
tory se

# A. S. C

# GAS FURNACES

AND

# Heating Machines

FOR

# MECHANICAL

# HEATING PROCESSES

# We Make

Annealing,

Hardening,

Assaying,

Melting,

Forging,

Enameling,

Case Hardening

Machines,

Coloring and Tempering

# Wh



**Skylights**

Kinnear Mfg. Co.

**Sluice Gates**Coffin Valve Co.  
Coldwell Wilcox Co.  
Smith Co., S. Morgan**Softeners, Water**American Water Softener Co.  
Harrison Safety Boiler Works  
New York Continental Jewell Filtration Co.  
Pittsburg Filter Mfg. Co.  
Roberts Filter Mfg. Co.**Spillways (Siphon)**

Davis, William Russell

**Stacks**Dover Boiler Works  
Riter-Conley Mfg. Co.**Standpipes**Chicago Bridge & Iron Works  
Des Moines Bridge & Iron Co.  
Dover Boiler Works  
Petroleum Iron Works  
Riter-Conley Mfg. Co.  
Schreiber Sons Co., L.  
Tippett & Wood  
Walsh's Holyoke Steam Boiler Works**Steel Plate Construction**American Bridge Co  
Blaw Steel Construction Co.  
Chicago Bridge & Iron Works  
Des Moines Bridge & Iron Co.  
Dover Boiler Works  
Inland Steel Co.  
McNeil & Bro., James  
Pennsylvania Steel Co.  
Petroleum Iron Works  
Riter-Conley Mfg. Co.  
Walsh's Holyoke Steam Boiler Works  
Williams Co., G. H.**Steel, Structural**American Bridge Co.  
Belmont Iron Works  
Berlin Construction Co.  
Blaw Steel Construction Co.  
Carnegie Steel Co.  
Central States Bridge Co.  
Chicago Bridge & Iron Works  
Clinton Bridge Works  
Des Moines Bridge & Iron Co.  
Eastern Bridge & Structural Co.  
Fort Pitt Bridge Works  
Inland Steel Co.  
Jones & Laughlin Steel Co.  
Kenwood Bridge Co.  
Massillon Bridge & Plate Co.**Tables and Boards, Drawing**American Drafting Furniture Co.  
Keuffel & Esser Co.  
Soltmann, E. G.  
Technical Supply Co.**Tackle**

Patterson Co., W. W.

**Tanks and Towers**American Bridge Co  
American Rolling Mill Co.  
American Sheet & Tin Plate Co.  
Blaw Steel Construction Co.  
Chicago Bridge & Iron Works  
Davis & Son, G. M.  
Des Moines Bridge & Iron Co.  
Dover Boiler Works  
Minneapolis Steel & Machinery Co.  
Pacific Tank & Pipe Co.  
Petroleum Iron Works  
Riter-Conley Mfg. Co.  
Tippett & Wood  
Walsh's Holyoke Steam Boiler Works**Tanks, Concrete**

Concrete Steel Co.

**Tanks, Wood**Davis & Son, G. M.  
Pacific Coast Pine Co.  
Pacific Tank & Pipe Co.  
Redwood Manufacturers Co.**Tapes, Steel and Metallic**Chicago Steel Tape Co.  
Keuffel & Esser Co.  
Lufkin Rule Co.  
Technical Supply Co.**Telpherage Systems**

Brown Hoisting Machinery Co.

**Testing Laboratories**

See Alphabetical Index

**Thermometers, Recording and Index**

Bristol Co.

**Ties, Steel**American Bridge Co  
Carnegie Steel Co.  
Jones & Laughlin Steel Co.**Ties (Treated Wood)**

Berlin Mills Co.

**Tile, Concrete Building**

Trussed Concrete Steel Co.

**Tin and Terne Plates**American Rolling Mill Co.  
American Sheet & Tin Plate Co.**Turnbuckles**

American Bridge Co

**Turntables**American Bridge Co  
Chicago Bridge & Iron Works  
McMyler Interstate Co.  
Pennsylvania Steel Co.  
Strobel Steel Construction Co.**Typewriters**

Blickensderfer Mfg. Co.

**Unions**Mark Mfg. Co.  
National Tube Co.**Valves, Back Pressure and Atmospheric Relief**Harrison Safety Boiler Works  
McGowan Co., John H.**Valves, Water, Steam, Gas**Coffin Valve Co.  
Darling Pump & Mfg. Co.  
Eddy Valve Co.  
Kellogg Co., M. W.  
National Tube Co.  
Norbom Engr. Co.  
Rensselaer Valve Co.  
Smith Co., S. Morgan**Ventilating Apparatus**Detroit Steel Products Co.  
Vulcan Iron Works,  
(Wilkes-Barre)**Ventilators**

Burt Mfg. Co.

**Vulcanized Fiber**

Continental Fiber Co.

**Wagons, Dump**Austin Mfg. Co.  
Troy Wagon Works  
Watson Wagon Co.  
Western Wheeled Scraper Co.**Wagons, Garbage**

Watson Wagon Co.

**Waterproofing**Barrett Mfg. Co.  
Carbolineum Wood Preserving Co.  
Republic Creosoting Co.  
Rinald Bros.  
Sandusky Portland Cement Co.  
Sicilian Asphalt Paving Co.  
Standard Asphalt & Rubber Co.  
Toch Bros.  
Trussed Concrete Steel Co.**Welding Apparatus**

Oxweld Acetylene Co.

**Well Drilling Machines**



City of New Haven, about 10,300 sq.yd. asphalt pavement over a concrete base: Union Paving Co., Schenectady, N. Y., \$2.19 per sq.yd.; C. W. Blakeslee & Sons, New Haven, Conn., \$2.35 per sq.yd. Town of Brookfield, about 5700 lin.ft. native stone macadam or gravel construction on the Brookfield Center road: (1) Earth excavation per cu.yd.; (2) excavation to subgrade per sq.yd.; (3) rock excavation; (4) native stone macadam per sq.yd.; (5) native stone macadam over telford base; (6) gravel per sq.yd.; (7) gravel over telford base per sq.yd.; (8) trimming and forming shoulders per lin.ft.; (9) trap-rock screenings per cu.yd.; (10) portland cement concrete per cu.yd.; (11) second-class portland-cement concrete per cu.yd.; (12) new masonry per cu.yd.; (13) dry rubble masonry per cu.yd.; (14) gas-pipe railing per lin.ft.; (15) cobble gutters per sq.yd.; (16) rubble drain per lin.ft.; (17) Trinidad oil per sq.yd.; (18) asphalt flush coat per sq.yd.; Kellogg & Gregory, Danbury, Conn., (1) 58c., (2) 17c., (3) \$1.65, (4) 65c., (4) 75c., (6) \$1, (7) 50c., (8) 10c., (9) \$2.50, (10) \$10, (11) \$7, (12) \$4.75, (13) \$4, (14) \$1, (15) 40c., (16) \$1, (17) 80c., (18) 12c.; B. D. Pierce, Jr., Co., Bridgeport, Conn., (1) 60c., (2) 25c., (3) \$2, (4) 60c., (5) \$1.30, (6) 65c., (7) 60c., (8) 15c., (9) \$3, (10) \$20, (11) \$10, (12) \$6.50, (13) \$5, (14) \$2, (15) 60c., (16) \$1, (17) 10c., (18) 10c.; C. W. Blakeslee & Sons, New Haven, Conn., (1) 55c., (2) 15c., (3) \$2.25, (4) 92c., (5) \$1.45, (6) 76c., (7) \$1.29, (8) 20c., (9) \$3.50; (10) \$8.50; (11) \$8, (12) \$6.50, (13) \$5, (14) \$3, (15) 70c., (16) \$2, (17) 10c., (18) 15c., E. N. Clarke, Milford, Conn., (1) 65c., (2) 25c., (3) \$3, (4) 85c., (5) \$1.60, (6) 85c., (7) 75c., (8) 25c., (9) \$2, (10) \$10; (11) \$10; (12) \$8, (13) \$6, (14) 50c. for wood railing, (15) 80c., (16) \$1.25, (17) 25c., (18) 25c.; B. N. Beard Co., Shelton, Conn., (1) 60c., (2) 20c., (3) \$2, (4) 95c., (5) 65c., (6) 90c., (7) 50c., (8) 15c., (9) \$2, (10) \$10, (11) \$8, (12) \$5.50, (13) \$5, (14) \$1, (15) 50c., (16) \$1, (17) 15c., (18) 15c.

+Contracts for state roads have been awarded by the State Highway Commissioner as follows: Town of Salisbury, about 4290 lin.ft. bituminous macadam construction on the Millerton road to JOSEPH MASETTI, Torrington, Conn., for approximately \$10,000. Town of Suffield, about 4500 lin.ft. of bituminous macadam construction on the Boston Neck Road to OLMSTED & OLMSTED, East Hartford, Conn., for \$1.30 per sq.yd. for bituminous macadam, \$2.18 per sq.yd. for telford base, 70c. per sq. yd. for cobble gutters, \$1.10 per lin.ft. for rubble drain, \$8 per cu.yd. for concrete wall, \$8 per cu.yd. for masonry wall, \$6 per cu.yd. for dry rubble wall. Town of Woodbury, about 7200 lin.ft. of gravel construction to LOUIS LONGHI & BRO., Torrington, Conn., for approximately \$20,805. Town of Portland, about 5670 lin.ft. of native stone macadam construction on the East Hampton Road to LEONARDO SUZIO for approximately \$13,836. Town of Stonington, about 11,150 lin.ft. of native stone macadam construction on the New London-Westerly Turnpike to BRISTOW BROS. & KNOWLES CORPORATION, Narragansett Pier, R. I., for approximately \$31,130. Noted Sept. 4.

Bids will be received by the State Highway Commissioner, State Capitol, until 2 p.m., Sept. 16, as follows: Town of Rocky Hill—About 8565 lin.ft. of trap rock or native stone macadam construction on the Rocky Hill-Berlin Road. Plans and specifications in the Town Clerk's office, Rocky Hill. Town of Voluntown—About 4800 lin.ft. of native stone macadam or gravel construction on the Pendleton Hill Road. Plans and specifications at the office of Briggs Bros. Co., Voluntown. Town of Torrington—About 5810 lin.ft. of native stone or trap rock macadam construction on the New Hartford and Torrington Road. Plans and specifications at the Selectmen's office, Torrington. Towns of East Ford and Chaplin—About 34,149 lin.ft. of gravel construction on the Willimantic-Phoenixville Turnpike. Plans and specifications at the store of C. A. Wheaton, Phoenixville, Conn. Town of Glastonbury—About 4550 lin.ft. of macadam or gravel construction on Hebron Ave. Plans and specifications at the store of E. W. Llewelyn, Addison, Conn. Town of Cheshire—About 7608 lin.ft. of macadam or gravel construction on the Waterbury Road. Plans and specifications at the Town Hall, Cheshire, Conn. Town of East Windsor—About 1650 lin.ft. of macadam or gravel construction, including concrete arch bridge. Plans and specifications at the office of H. A. Middleton, First Selectman, Broad Brook, Conn.

+Contract for the construction of about 7125 lin.ft. of gravel road in the Town of North...

\$9606; B. Tur Crown St., fr FOX, Brookly proofing Co., \$5323; Sanbor for the same Kings Highway CASTLE BRO (awarded con class of work road about 35 \$29,459; W. G.

Contracts h 20, for street liminary aspha roadway of 58 the BROOKLY Ave., Brookly and laying sid Ave., to JOSEI laying and pa 6-in. concrete Ave. to 15th A CO., \$16,846; sidewalks on BONACCI CON

New York, will be receiv of the Boroug repaving with Road from W Whittle is Act

(Borough o until noon, Sep foot of Battery ment on the m 19, East River.

(Borough o until 2 p.m., S Park Row, fo following stre 89th, 93d, Exte McAneny is Pr

(Borough o until 11 a.m., Brooklyn, Bor tions of the 1 Elton, Huron, 14th, East 15th and 77th Sts.; bilt, Vandervoo

East Orange Central Ave. w of \$24,000. W.

Newark, N. p.m., Sept. 22, Speedways of County for pa with granite b Gilbert, Chn. is County Engi

Summit, N. J. Sept. 16, by the sq.yd. of amies Ave. to Morris

+Jamestown the contract fo STRUCTION CO were: Leshor Construction C New Castle, Per

Mount Plea



received until  
ers for vitri-  
on portions of  
Divine is City

received until 1  
inston County  
lay or gravel,  
Road, begin-  
is State High-

received until  
or graveling  
sq.yd. George

received until  
Commissioner  
. 19, 25, 26, 27,  
e 17,052 sq.yd.  
s will be ac-  
Donald is City

ers of Shelby  
ad to connect  
ounty, Miss., to  
s from \$15,000  
y Comrs.

ed until noon,  
the improve-  
g Road, N. E.,  
., and Marvin  
arbert is Dir.

received until  
of Hamilton  
d from North  
ecification No.  
bert Reinhardt

received until 11  
of Cuyahoga  
oad. John F.

received until  
e for furnish-  
tment. W. J.

received until 2  
oner for grad-  
1.21 miles of  
ynship, Stark  
nes R. Marker

ved until noon,  
aining curbing  
on line to the  
Clk.

d until 1 p.m.,  
ain County for  
0 lin.ft. of the  
nty Surv. F.

received until  
onstruction of  
McGrew is Vil-

ments in In-

f Washington  
hington Town-

ers of Clarke  
sonville Town-

**+Vernon, Ind.**—(Official)—The Commissioners of Jennings County have awarded a contract for the construction of a road in Lovett Township to COLTER & WHITE, Milroy, Ind., \$7556. J. A. Palmer bid \$8000. G. J. Bernhart is Audr. Noted Aug. 14.

**Cape Girardeau, Mo.**—Press reports state that bids will be received until Sept. 15 for the construction of about 14,000 sq.yd. of concrete paving. F. A. Kage is Mayor.

**Pine Bluff, Ark.**—(Official)—Bids will be received until Sept. 15 by the Board of Public Affairs for the construction of concrete sidewalks on Alabama and Tennessee Sts. W. A. Lee is Clk. of the Bd.

**+Waco, Tex.**—The City Commission has awarded the contract for paving North 18th St. to the TEXAS BITULITHIC CO., Dallas, at \$34,845.

**Olympia, Wash.**—Bids will be received until Sept. 20 by the State Highway Board for clearing, draining and graveling 3.8 miles of the Pacific Highway north of Marysville, Snohomish County, and for similar improvements on two miles of highway east of Everett. W. J. Roberts is State Highway Comr.

**+Seattle, Wash.**—The Board of Public Works has awarded contracts for street improvements as follows: To F. A. HADLEY, at \$16,264, for grading 36th Ave.; to DeFLONG & ANDERSON, at \$32,657, for grading 14th Ave., N. W.; to KROGH & JESSEN, at \$18,533, for resurfacing West 60th St.; to P. J. McHUGH, at \$59,109, for paving Westlake Ave., North. The West Coast Construction Co., at \$61,451, was low bidder for grading and planking Gilman Ave. Other bidders were: Peterson & Johnson, \$63,331; Russell & Gallagher, \$63,055, and Baumgartner & Moughlin, \$72,316. C. B. Bagley is Secy. Bd. of Pub. Wks. A. L. Valentine is Chn.

**+Walla Walla, Wash.**—(Official)—The State Highway Commissioner has awarded the contract for improving two sections of the Inland Empire Highway near Walla Walla to the WILSON-BAILEY CONSTRUCTION CO., Walla Walla, at \$63,019. Other bidders were; Akesson & Bloomquist, \$81,651, and the O. S. Brown Construction Co., \$67,255. W. J. Roberts, Olympia, is State Highway Comr. Noted Aug. 7.

**Hermosa Beach, Calif.**—The Board of City Trustees is having plans prepared for the construction of a 22-ft. walk along the Strand for about 1.75 miles. The work includes concrete paving and the erection of concrete ornamental lighting posts, and the estimated cost is \$35,000.

**+Lordsburg, Calif.**—The City Trustees have awarded a contract for improving various streets to HENRY L. KUNS, Lordsburg, at \$34,000. Frank A. Lathrop, Los Angeles, Calif., is Engr.-in-Charge.

**+Los Angeles, Calif.**—The Board of City Trustees has awarded the contract for the improvement of Fourth St. from Commonwealth to Vermont Ave., to WALTER OVERELL, at \$14,583, and the contract for the improvement of Santa Fé Ave., from Sixth to Ninth St., to the BARBER ASPHALT PAVING CO., at \$36,883. Homer Hamlin is City Engr.

**Manhattan Beach, Calif.**—The Snyder & Considine Co., Santa Monica, Calif., was the only bidder for improving Highland Ave., from 37th St. to the south city limits. Its bid was approximately \$85,000. Knapp & Woodward, Consolidated Realty Bldg., Los Angeles, are Engrs.-in-Charge.

**Sacramento, Calif.**—Bids will be received about Sept. 24, by the State Highway Commission for the improvement of three sections of state highway in Orange County from the Los Angeles County line through Fullerton and Orange to Santa Ana, aggregating about 11 miles. Bids will be taken on the sections separately, and awarded in three contracts. Wilson R. Ellis is Secy.

**Santa Ana, Calif.**—Bids will be received by the Board of Supervisors of Orange County, until 2 p.m., Sept. 16, for improving about 4¼ miles of the Huntington Beach Road.

**+WITHERS & CRITES**, 222 Wilcox Bldg., Los Angeles, were awarded the contract at \$12,075, for improving the



September 11, 1913

## ENGINEERING NEWS

Co. J. T. Simpson, Essex Bldg., Newark, N. J., is the Arch. and Engr.

**+Erie, Penn.**—The contract for the erection of a warehouse on 12th St. for the Standard Mfg. Co., has been awarded to the HENRY SHENK CO., to cost \$60,000. C. P. Cody is the Arch. Noted Sept. 4.

**Huntingdon, Penn.**—Bare & Beaver will erect a three-story brick and stone warehouse, to cost \$15,000.

**Oil City, Penn.**—The Reid Gas Engine Co. will enlarge its plant by erecting a two-story shop, 40x40 ft., also a storage building, 75x122 ft., both to be of brick and steel.

**Philadelphia, Penn.**—George Oldham & Sons are having plans prepared for a two-story addition and power house.

The Department of Public Works, Philadelphia, Penn., will soon receive bids for the erection of a three-story fireproof machine shop and garage, to be erected at 11th and Reed Sts. Ballinger & Perrot are the Archs.

**+The contract has been awarded to A. RAYMOND RAFF,** by the Swift Packing Co., for the construction of an addition to its plant, located at American and Norris Sts., to be 48x49 ft., two stories, of fireproof construction. The cost is estimated at \$25,000.

Charles H. Denny, Arch., has been commissioned to prepare plans for the reconstruction of the plant, to be located at Dudley, Water and Swanson Sts., for the Union Petroleum Co., recently destroyed by fire at a loss of \$150,000.

**Pittsburgh, Penn.**—The Alliance Clay Products Co. will erect a plant in Pittsburgh, to cost \$100,000. The company's capital has been increased from \$50,000 to \$200,000.

**+Sparrows Point, Md.**—(Official)—The Maryland Steel Co. has awarded the contract to the RAYMOND CONCRETE PILE CO., 140 Cedar St., New York, N. Y., for the foundations for a Besemer mixer and a Bessemer mixer Bldg.

**Mobile, Ala.**—The Southern Steel Co. will erect a plant north of Mobile, to have a daily output of 1000 tons.

**Shreveport, La.**—The Process Fuel & Refining Co., recently incorporated with a capital stock of \$55,000, will build an oil refinery at Shreveport.

The Elliott Electric Co., manufacturer of electrical supplies, will erect a factory at Shreveport, to cost approximately \$15,000.

The Meridian Fertilizer Co., Shreveport, La., has purchased 36 acres at Bossier City, and will erect a new factory, to cost about \$150,000.

**Chillicothe, Ohio**—The American Pad & Textile Co., Greenfield, Ohio, will erect a two-story and basement factory building, 50x175 ft., at Chillicothe. Samuel Hannaford & Sons, Hulbert Blk., Cincinnati, Ohio, are Archs. Bids will be received at Greenfield, Ohio.

**Cincinnati, Ohio**—J. M. Schott & Sons Co. will erect an addition to its cooperage plant at 2734 McMicken Ave. A two-story building, 41x70 ft., and a one-story shed, 55x40 ft., will be erected. Martin Fisher, 2156 Central Ave., is Arch.

The Gruen Watch Case Co. will erect a factory on McMillan St., to cost about \$50,000. Hall & Burroughs, Fourth National Bank Bldg., are the Archs.

**Cleveland, Ohio**—The J. Laub Baking Co. is receiving bids for the erection of an addition to its bakery at Lorain Ave. and West 49th St. It will be of reinforced concrete, two stories, 45x90 ft. The estimated cost is \$10,000. C. D. Cooley, Westinghouse Bldg., Pittsburgh, Penn., is the Arch.

**Oberlin, Ohio**—The New York Distributing Co., of Ohio, has been organized with \$100,000 capital stock, and arrangements are under way for the erection of a glass factory at Oberlin. The estimated cost of the building is \$14,000 and it is said that the equipment will cost \$40,000 more. W. J. Mosher, of New York, N. Y., is pres. and J. N. Stone, Oberlin, Ohio, is Secy.

**Evansville, Ind.**—The International Steel & Iron Co. will rebuild its plant which was recently burned at a loss of \$50,-

**Harvard, Mass.**—Incorporated v

**Milwaukee, Wis.**—building, 60x1 Co., on 12th S a two-story b machinery wil

**Cedar Rapids, Iowa**—had plans prep on the southe is \$50,000.

**Minneapolis, Minn.**—taken out a p grain elevator

**Townsend, Mass.**—Milling Co., w at Townsend,

**Des Arc, Mo.**—planer mill, v fire, at a loss

**+St. Louis, Mo.**—awarded the proof wareho estimated at \$

**Phoenix, Ariz.**—cotton-gin pl been awarded erection of fi

**Portland, Ore.**—five acres and to cost \$25,000

**Los Angeles, Cal.**—about \$450,00

**+Vancouver, B. C.**—factory for CARVER, JO on Railway A

**Dredging—**Col. W. E. Ch St. Croix River Cummings D Dredging Co., Boston, Mass., R. I., 23. c.

**+Concrete** Mass.—The c and water pip to ROBERT Mass. Noted

**Post Office** 3 p.m., Oct. 9 Dept., Washin plumbing, gas wiring, interi post office at

**Heating Pl** Bids will be Ch. Bureau of D. C., for boi conveyor, the ground piping cold water, a the Navy Hos

**Seawall—**M follows, Sept. construction tanks at the R. I. The v with concre wing walls



roth, Superv.  
awarded con-  
ng at Fulton,  
no, at \$70,336.

for dredging  
ACKARD CO.,  
Noted Aug. 21.

Y.—Bids will  
Black, Corps  
dredging and  
and in East

received until  
pot Quarter-  
urnishing one

—Bids will be  
the U. S. Life  
D. C., for the  
and other work  
S. I. Kimball

N. Y.—Bids  
ighthouse In-  
ete retaining  
tion, N. Y.

ceived as fol-  
ch., Treasury.  
ne post office  
tion Co., Phil-  
ington, D. C.,

ceived as fol-  
ch., Treasury  
on of a post  
& Engineer-  
\$62,000; R. S.  
Thomas W.

the artesian  
warded to the  
er ft. Other  
3.45; Thos B.  
; J. B. Rulon,  
Aug. 14.

received until  
grs., U. S. A.,  
k, N. J.

ll be received  
U. S. Capitol  
opper facing  
5.

received until  
pot Quarter-  
ne Maine Me-

received until  
Corps Engrs.,  
for dredging

D. C.—Bids  
ineer Corps,  
trically oper-  
York, \$3450;  
C., \$5300; L.  
ger Pump &

gton, D. C.—  
R. Stanford,  
Washington,  
at the naval

**+Post Office**—Cedartown, Ga.—Oscar Wenderoth, Superv. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of a post office at Cedartown, Ga., to PIEDMONT SUPPLY CO., Charlottesville, Va., at \$44,519. Noted July 10.

**Post Office**—Dublin, Ga.—Bids will be received until 3 p.m., Sept. 25, by Oscar Wenderoth, Superv. Arch., Treasury Dept., Washington, D. C., for the proposed changes in the exterior and the lobby of the U. S. post office at Dublin, Ga.

**+Dredging**—Mobile, Ala.—Bids will be received until 11 a.m., Oct. 7, by Capt. R. T. Ward, Corps Engrs., U. S. A., Mobile, Ala., for dredging channel connecting Mobile Bay and Mississippi Sound at Pass Aux Herons, Ala.

**Levee**—New Orleans, La.—Bids were received as follows by State Board of Engineers, New Orleans; for 450,000 cu.yd. of levee work in Madison and Tensas Parishes. Dameron & White, New Orleans, were low bidders on the Reids-Biggs Levee at 33 $\frac{1}{2}$ c.; J. M. Sullivan, on the Bayou Roundaway Levee, at 27.7c.

**+Post Office**—Lebanon, Tenn.—Oscar Wenderoth, Superv. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of a post office at Lebanon, Tenn., to JAMES CORSE, Racine, Wis., at \$46,827. Noted July 24.

**Water-Power Development**—Nashville, Tenn.—Bids will be received until 11 a.m., Dec. 11, by Maj. H. Burgess, Corps Engrs., U. S. A., for franchise for water-power development at Muscle Shoals, Ala., on Tennessee River.

**+Post Office**—Frankfort, Ind.—Oscar Wenderoth, Superv. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of a post office at Frankfort, Ind., to the FRANKFORT CONSTRUCTION CO., Frankfort, Ind., at \$64,500. Noted July 10.

**Boiler**—Detroit, Mich.—Bids will be received until 2 p.m., Sept. 17, at the office of the Lighthouse Inspector, Detroit, Mich., for furnishing one boiler for Fourteen Mile Point Light Station, Mich.

**+Post Office**—Menominee, Wis.—Oscar Wenderoth, Superv. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of a post office at Menominee, Wis., to BAILEY-MARSH CO., Minneapolis, Minn., at \$46,430. Noted July 17.

**Post Office**—Owatonna, Minn.—Bids were received as follows, Sept. 2, by Oscar Wenderoth, Superv. Arch., Treasury Dept., Washington, D. C., for the construction of a post office at Owatonna: (a) Limestone; (b) sandstone: William O'Neil & Sons Co., Faribault, Minn., (a) \$49,276; (b) \$51,376; Northern Construction Co., Milwaukee, Wis., (a) \$57,850; (b) \$58,650; W. D. Lovell, Minneapolis, Minn., (a) \$52,900; P. M. Hennessy, St. Paul, Minn., (a) \$51,449. Noted July 24.

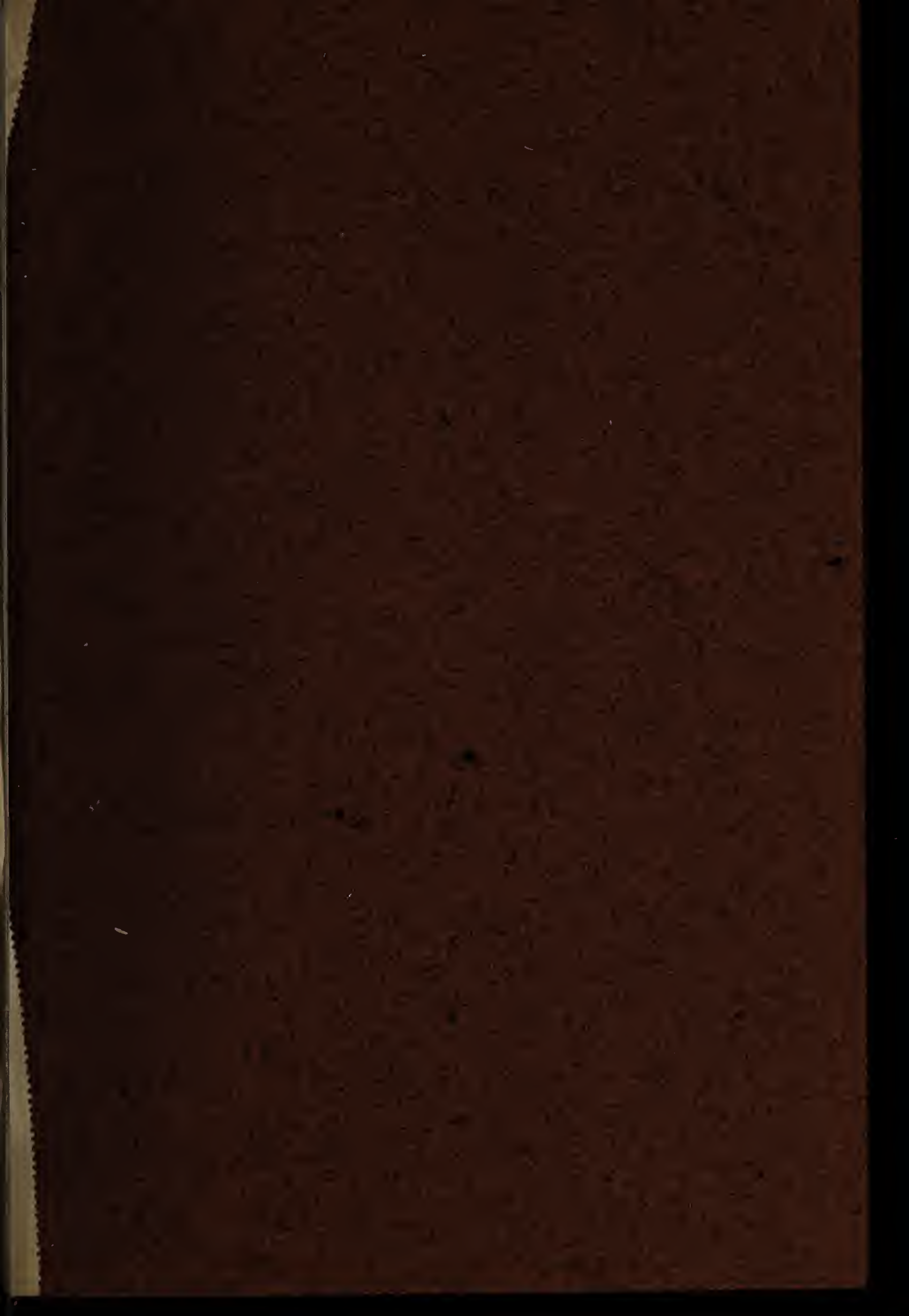
**Revetment**—Kansas City, Mo.—Bids were received by Maj. Herbert Deakyne, Corps Engrs., for constructing about 12,000 ft. of standard revetment at Little Blue Bend, as follows: McGuire & Co., Leavenworth, Kan., \$12.25 per lin.ft.; J. W. McMurray Constructing Co., Kansas City, Mo., \$11; Kansas City Bridge Co., Kansas City, \$10.95.

**Rock or Gravel**—Galveston, Tex.—Bids will be received until noon, Sept. 12, by Lieut.-Col. C. S. Riche, Corps Engrs., U. S. A., for crushed rock or gravel, delivered at Downs, Tex.

**+Post Office**—Marshall, Tex.—Oscar Wenderoth, Superv. Arch., Treasury Dept., Washington, D. C., has awarded contract for the construction of a post office at Marshall, Tex., to GEORGE A. SHAUL, Seneca, Kans., at \$58,926. Noted July 24.

**+Canal**—Denver, Colo.—The Secretary of the Interior has awarded a contract to the ELLSWORTH-KLANER CONSTRUCTION CO., Pittsburg, Kan., for the construction of a portion of the East Canal, Uncompahgre Irrigation project, involving approximately 88,000 cu.yd. of excavation in open cut, and 5500 cu.yd. overhaul. The contract price is \$16,572. Noted Nov. 14 under Water Supply.

Dam, Grand Canyon, Colo.—The Secretary of the Interior







# Wouldn't it make you

If you  
took a

**THE STANDARD SCALE & SUPPLY**

Pay to the order of

*Any Con*

*Saving on labor & oper*

LABOR SAVING NAT'L BANK  
PITTSBURGH, PA.

*The Stan*

*Waiting for your  
indorsement*

# "The STANDARD LOW CHARGES Concrete"

never gets writer's cramp from signing these checks, and it's  
N. S. F. Beside saving you the cost of extra power and lab

# Hundreds of Thousands of Barrels

of UNIVERSAL Portland cement are being used in the rebuilding of the cities. Permanent, fireproof, sanitary structures of reinforced concrete are supplanting the crumbling, inadequate buildings of the past.

## UNIVERSAL Portland Cement

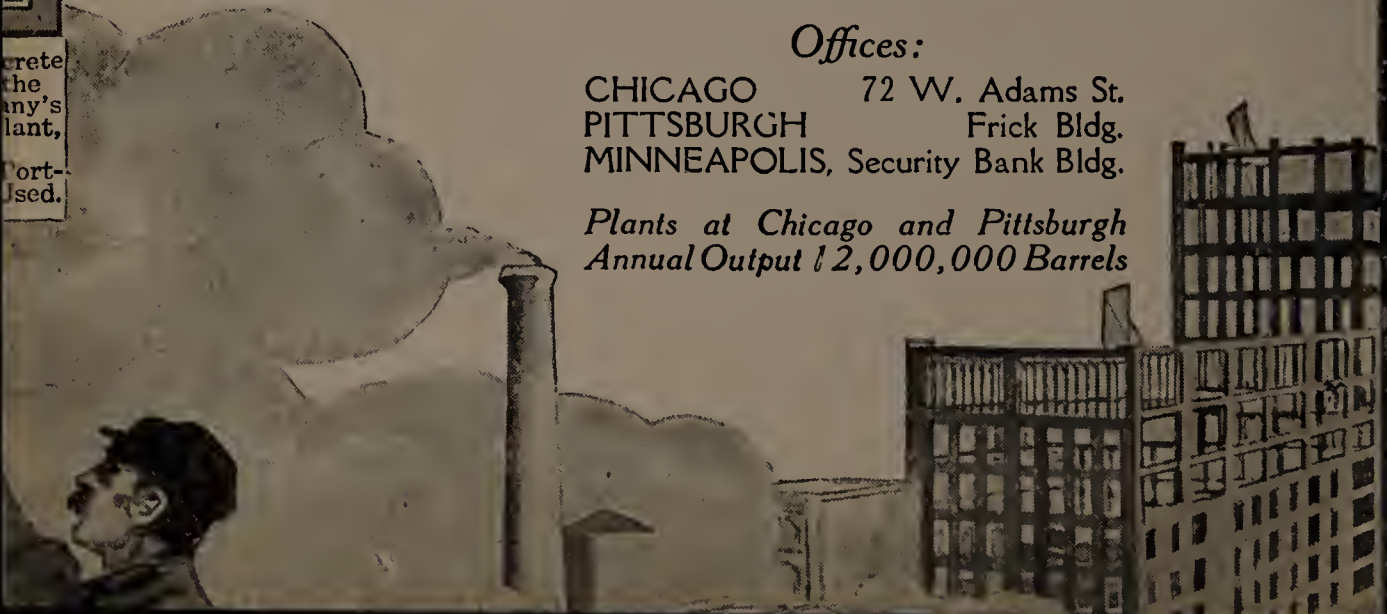
enters into all classes of concrete construction. More people use it—and use more of it—than any other brand. Our shipments in 1912—10,047,499 barrels—were the largest in the world. This record could not have been made had not UNIVERSAL quality always been consistently maintained.

**Universal Portland Cement Co.**

*Offices:*

CHICAGO 72 W. Adams St.  
PITTSBURGH Frick Bldg.  
MINNEAPOLIS, Security Bank Bldg.

*Plants at Chicago and Pittsburgh  
Annual Output 12,000,000 Barrels*



crete  
the  
any's  
lant,  
ort-  
Used.





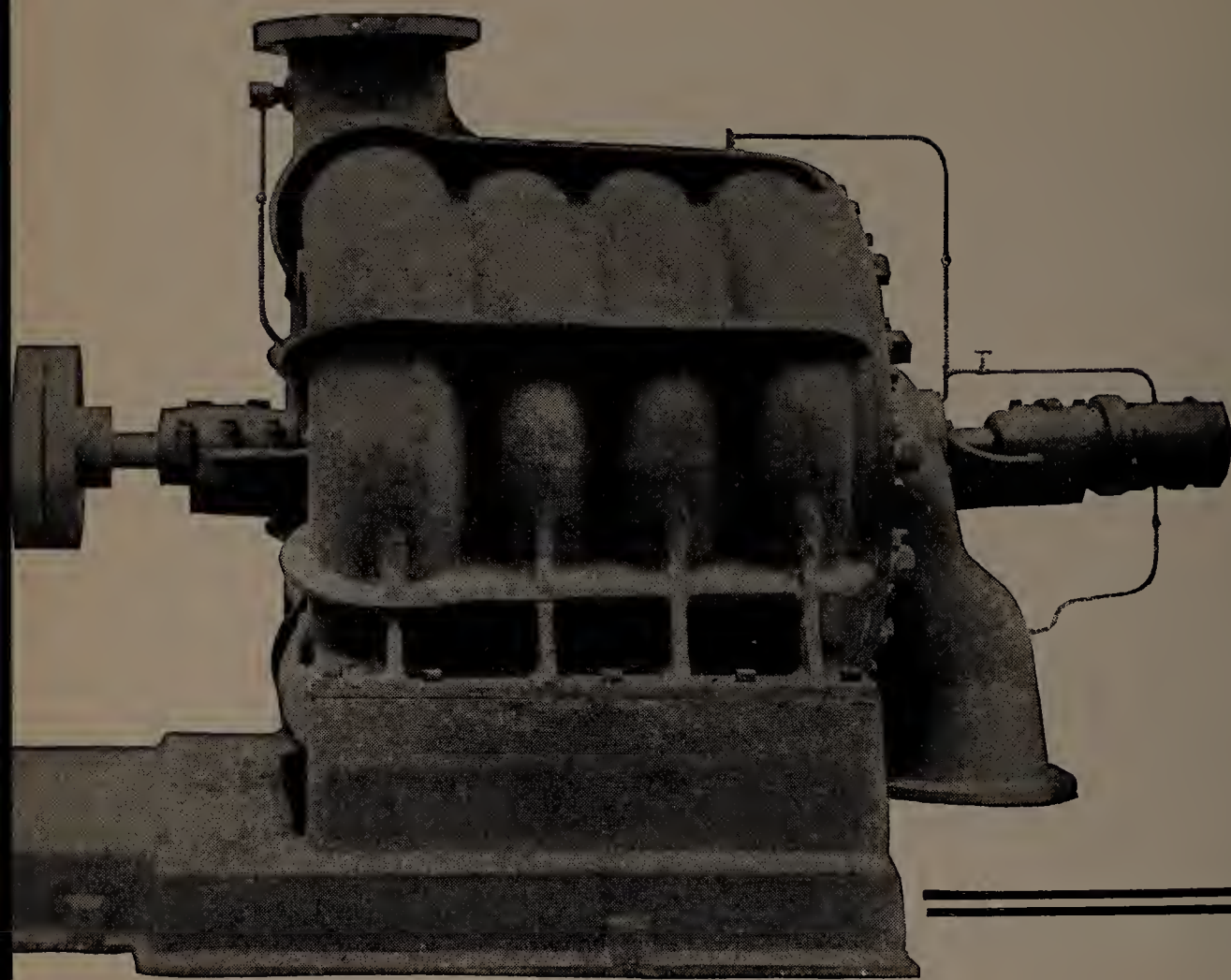
# I S I Takes L IVI Drag Li

The big point about using the **Iverson** Drag Line Scraper Bucket is that tension between Drag and Hoist Lines is absolutely done away with.

After loading there is no necessity for dragging the bucket nearer the machine to get such a position as will prevent bucket from dumping when it begins to swing. The moment the bucket is full, no matter where it is, under the end of the boom or 10 feet beyond it, it can be picked up *immediately* without dragging in and without losing any of its load.

In swinging, it will be noted that with no tension of drag-line the bucket hangs in position to hold material without spilling; no jerk or jar from drag-line is possible.





ns per Minute at a 442-Foot Head in a Hawaiian Sugar Factory.  
a Westinghouse 1000-Horse power Motor.

# Large Pumps

uity of service is of prime importance, as in  
d towns, in supplying water for manufacturing  
upply would cause the plant to shut down, in  
stopping would menace the health of the city,

# house Motors

of their great reliability of operation.

embodied all the structural and electrical features that



has been awarded to E. KAUFMANN, by R. C. Desrochers, Secy. Dept. Pub. Wks., Ottawa, Ont.

**Dredge**—Vancouver, B. C.—Cartwright, Matheson & Co., Engrs., Rogers Bldg., Vancouver, are preparing plans for the dredge to be used in Arrow and Kootenay Lakes by the government. Estimated cost, \$100,000.

**Wharves**—Victoria, B. C.—Robt. Rogers, Minister of Pub. Wks., Ottawa, Ont., will soon ask bids for the construction of the two proposed piers here. Estimated cost, about \$1,000,000 each.

**+Wharves**—Panama—The Panama R.R. Co. has awarded the contract to the CENTRAL AMERICAN CONSTRUCTION CO., Colon, Panama, for constructing two wharves at Cristobal, at about \$200,000 U. S. currency.

### BUILDINGS

**+Plymouth, N. H.**—The contract for erection of a \$100,000 dormitory at the Plymouth State Normal School has been awarded to the NASHUA BUILDING CO., Nashua, N. H.

**+Boston, Mass.**—(Official)—The contract for the structural-steel work for the Boston Custom House has been awarded by Norcross Bros., general contractors, to the PERTH CONSTRUCTION CO., 220 Broadway, New York.

**Chicopee, Mass.**—Bruno Wosny, Arch., Springfield, Mass., has completed plans for a five-story and basement building for the Polish National House, to be 62x96 ft.

**+Clinton, Mass.**—The contract for the erection of the state armory has been awarded to J. P. KEATING, Westboro, Mass., at \$48,867. Noted July 24.

**Leicester, Mass.**—A. E. Beach, Holyoke, Mass., and T. F. Ford, Springfield, Mass., have purchased a ten-acre site and are having plans prepared for a \$100,000 hotel.

**Medford, Mass.**—Bids will soon be asked for the construction of a City Hall for Medford. Frederick R. Charnock is City Engr.

**Northampton, Mass.**—The Trustees of Smith College plan the erection of a biological laboratory to be built this fall. The matter is in charge of a building committee. The estimated cost is \$140,000.

**+Springfield, Mass.**—The contract has been awarded to the EASTERN BRIDGE & STRUCTURAL CO. Worcester, Mass., for the steel work for the new Dunlap Building. E. C. & G. C. Gardner, Springfield, are Arch.

Bids are being received for the erection of a High School of Commerce at State and High Sts. The building will be 240x220 ft. three stories and basement, of brick and concrete, fireproof, construction. A vacuum cleaning system will be installed. The cost is estimated at \$600,000. Kirkham & Parlett are the Archs.

**Springfield, Mass.**—Angers & Dunlap will erect a building on Bridge St. and Stearns Park, three-stories, of steel and concrete. The cost is estimated at \$44,000.

**Springfield, Mass.**—Bids will be received until Sept. 12, for the construction of the Memorial Library at Memorial Sq. E. L. Tilton, New York, N. Y. E. C. & G. C. Gardner are Archs.

**Worcester, Mass.**—The Worcester Market Co. will erect a four-story business block at Main and Madison Sts. The building will be of brick and concrete 108x216 ft. O. C. S. Zirolie, Day Bldg., is the Ach.

**Worcester, Mass.**—Bids for construction of a brick school building at Andover & Goswold Sts. will be received until noon, Sept 15, by Supt. of Bldgs., Geo. C. Halcott City Hall. E. T. Chapin, State Mutual Bldg., is Arch.

**Bridgeport, Conn.**—Bids are being received for a business building and theater on Main St. for C. J. Barger. It will be 48x100x37 ft. of brick and concrete. Arthur S. Meloy, 17 P. O. Arcade, is Arch.

reau of fire-al  
Ave., Prospect

**Binghamton**  
plans for a h  
high school v  
and the powe

**+The contr**  
Hospital has  
at \$52,380. No

**Jamaica, L.**  
on Fulton St.,

**New York,**  
preparing plan  
at 150th St.  
struction Corp

**★New York**  
22, by J. H. B  
struction, heat  
Home at Mar  
Lewis F. Pilch

**+Norwich,**  
the theater fo  
ed to J. C. CU

**Port Jeffere**  
been approved  
struction of a

**Rochester,**  
plans and are  
ministration b  
York State R

**+Troy, N.**  
fireproof theat  
York, N. Y. ha  
Arland W. Joh  
is estimated a

**+Jersey Ci**  
tion of the v  
awarded to t  
way, New Yor  
ft., of reinforc

**Orange, N.**  
plans for a  
80x200 ft. Th

**Philadelphi**  
W. Rogers 573  
ment house a  
Wilson is the

**+The contr**  
bank building  
the CHARLES  
bray & Cuffin  
Archs.

**Pittsburgh,**  
Strong for the  
Church, to cos

**Quakertown**  
delphia, Penn.,  
prepare plans  
building, with  
be 60x65 ft., t

**Scranton, I**  
passenger stat  
Plans are bein

**+Uniontown**  
of the Penn  
Altoona, Penn.

**Vandergrift**  
the insane asy  
at Vandergrift  
burgh, \$331,200

**Warren, Pe**  
construction c  
Ch...

constructing the  
warded by the  
R CONSTRUC-  
ner is a mem-

Institute have  
of the trades  
CO., Chippewa

ne construction  
Wauwatosa by  
rs. The Ameri-  
0. Other bids  
thur W. Riesen  
,000; Paul Rie-  
ower plant will  
Bros., Majestic

Co. will erect  
son and Huron

until Sept. 16  
x100 ft. to cost  
Arch.

k will erect an  
to cost \$75,000.

erection of the  
ming has been  
81,600.

erection of the  
the OLSON &  
00. The build-

be received by  
City, Mo., on  
he building will  
0,000. Tracy &  
are the Arch.

ared by A. G.  
Calif., for the  
eum circuit.

, are preparing  
John Cofferrata  
l.

ans for a four-  
et Sts., for the  
at \$45,000.

pan Ry. and the  
office Building  
ve already been

prepared plans  
& Stewart, to  
three stories, of

pared plans for  
ected at Myrtle  
h, to cost \$50,-

Sept. 15 by the  
the erection of  
Home. Heath &

erection of the  
e SOUND CON-

STRUCTION & ENGINEERING CO., Dowman Bldg., Seattle.  
The estimated cost is \$50,000.

**Bakersfield, Calif.**—The Board of Supervisors of Kern County will receive plans from architects until Oct. 7 for the construction of a two-story fire-proof jail, to be 264x264 ft. and to cost \$150,000. Noted Aug. 28.

**Los Angeles, Calif.**—Bids will be received by W. F. McClure, State Engr., Capitol Bldg., Sacramento, until noon, Sept. 18, for the erection of the fine arts building for the Normal School at Vermont and Willowbrook Aves. Allison & Allison, Hibernian Bldg., are the Archs. The building will be two-stories, 131x81 ft. with concrete foundation, brick walls.

+The general contract for the erection of the 13-story steel and concrete office building on Spring St. for the Mason Estate has been awarded to the C. J. KUBACH CO., Van Neys Bldg. Austin & Pennell, Wright & Callender Bldg., are the Archs.

M. S. Yeager & Co., Trust & Savings Bldg., have completed plans for a four-story and basement brick apartment house 52x150 ft. to be erected at West Ninth and Stewart Sts. for C. C. Hooper, 519 Ardmore Ave.

**Los Angeles, Calif.**—Train & Williams, Archs., Exchange Bldg., have prepared plans for a four-story and basement brick apartment, 100x115 ft., to be erected at Grand Ave. and Court St., for Mrs. George J. Ley, 1325 Orange St.

Maberry & Parker, Archs., Pacific Electric Bldg., are preparing plans for a store and hotel to be erected at 14th and Hill Sts. for the Consolidated Realty Co. The structure will be four stories and basement, of steel and brick. The cost is estimated at \$50,000.

**Santa Ana, Calif.**—Metcalf & Davies, Archs., Long Beach, Calif., have prepared plans for a four-story and basement store and office building to be erected at Fourth and Sycamore Sts. for W. H. Spergeon, 820 North Main St. The cost is estimated at \$75,000.

**San Francisco, Calif.**—Lewis P. Hobart, Arch., Crocker Bldg., has been instructed by the Golden Gate Park Trustees to prepare plans for the Science Museum, to be erected in Golden Gate Park, to cost \$120,000.

**San Rafael, Calif.**—Thomas O'Connor, Arch., 104 D St., San Rafael, has completed plans for a County Infirmary, to be erected in the Lucas Valley. The building will be a two-story and basement reinforced concrete structure to cost \$40,000.

**London, Ont.**—John Griffin, Dundas and Wellington Sts. is preparing plans for a new theater to cost \$150,000.

+**Edmonton, Alta.**—The contract for the erection of a two-story hospital for Edmonton has been awarded to OLSON & JOHNSON, at \$55,000. Noted Aug. 28.

**Victoria, B. C.**—Plans have been prepared and accepted for the construction of the \$250,000 armory to be erected at Victoria. W. Ridgway Wilson is the Arch.

CONTRACT PRICE

**Sewer**—New York (Boro. of Queens), N. Y.—Bids were received by Maurice E. Connolly, Pres. Boro. of Queens, Aug. 27, for the construction of a sewer main in 51st St., from the bulkhead line of Flushing Bay to Lurting St., from (A) Degnon Contracting Co., 60 Wall St., New York; (B) Holbrook, Cabot & Rollins Corporation, 331 Madison Ave., New York; (C) Mason & Hanger, Kingsbridge, N. Y.; (D) F. J. Cogan & Co., Woolworth Bldg., New York; (E) Joseph L. Sigretti, Hunter Point Ave., Long Island City; (F) Litchfield Construction Co., Corona, L. I.; (G) Luke A. Burke & Sons, Inc., 25 West 42d St., New York; (H) Keystone State Construction Co., Pennsylvania Bldg., Philadelphia, Penn.; (I) O'Rourke Engineering & Contracting Co., 345 Fifth Ave., New York. The item bids were as follows:

SEWER, NEW YORK, N. Y.									
A	B	C	D	E	F	G	H	I	
\$215.00	\$225.00	\$180.00	\$175.00	\$127.52	\$86.46	\$201.00	\$160.00	\$93.00	



**Bascule Bridge**—Panama—Bids were received as follows, Sept. 5, by Maj. F. C. Boggs, Corps Engrs., U. S. A., General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., for the design, fabrication, delivery and erection (on bridge piers to be constructed by the Commission) of a single-track (5-ft. gage), single-leaf, movable span or bascule, over the French Canal, on the railroad connecting Cristobal Terminal Freight Yards with Cristobal Coal Docks, crossing the canal in the vicinity of Mount Hope, Canal Zone. The following are the controlling dimensions and elevations to which the design of the bridge must conform: Extreme low water, elevation, minus 1; extreme high water, elevation, plus 1.65; elevation of bottom of ship channel, minus 30; elevation of low steel on channel span, plus 15; distance from c. to c. of channel pins, 111.5 ft.; clear channel, 80 to 90 ft.; clear headroom, 22 ft. overhead from top of rail; side clearance, 7 ft. 6 in., either side of center line of track. The bridge is to be equipped to operate by electric motors, also so that it can be operated by hand power. The bids follow: Midland Bridge Co., Kansas City, Mo., type "A," \$69,442; alternate, \$68,297; type "B," \$63,360; alternate, \$62,235; time, 360 days; Strobel Steel Construction Co., 53 West Jackson Boulevard, Chicago, Ill., \$44,240; 300 days; American Bridge Co., 30 Church St., New York, \$59,595; \$57,465; \$55,404; time, first two propositions, 400 days; last, 340 days; Scherzer Rolling Lift Bridge Co., 1616 Monadnock Block, Chicago, Ill., \$52,900; time, 365 days; Penn Bridge Co., Beaver Falls, Penn., plan "A," \$87,800; "B," \$81,400; time, 450 days. Noted July 10.

**Steel Work**—Panama—Bids were received as follows, Sept. 6, by Maj. F. C. Boggs, Corps of Engrs., U. S. A., for the construction and erection of all structural-steel framework for the shops, office building No. 28, at Balboa, Canal Zone: American Bridge Co., Brooklyn, N. Y., 534,000 lb. at \$0.048 per lb.; \$25,632; 170 days; Riter-Conley Mfg. Co., Pittsburgh, Penn., 540,000 lb. at \$0.0429 per lb.; total, \$23,165. Noted Sept. 4.

**Steel Doors**—Panama—Bids will be received by Maj. F. C. Boggs, Corps Engrs., U. S. A., General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10:30 a.m., Sept. 15, for furnishing, or for furnishing and erecting, steel rolling doors for the permanent shop buildings at Balboa.

**Elevators, Etc.**—San Juan, Porto Rico—Bids will be received until 3 p.m., Oct. 13, by Oscar Wenderoth, Superv. Arch., Treasury Dept., Washington, D. C., for the installation complete of three hydraulic elevators, pumping plant, etc., in the U. S. court house, San Juan, Porto Rico.

**Ice and Cold-Storage Plant**—Hawaii—Bids will be received until 11 a.m., Oct. 18, by H. R. Stanford, Ch., Bureau of Yards and Docks, Navy Dept., Washington, D. C., for an ice-making and cold-storage plant at naval station, Pearl Harbor, Hawaii.

#### MISCELLANEOUS

★**Cable**—Boston, Mass.—Bids were received Aug. 15 by Chas. H. Cole, Fire Comr., for furnishing and installing 61, 20-, 15-, 10-, 6- and 4-conductor, rubber insulated lead-covered cable. The contract has been awarded to STANDARD UNDERGROUND CABLE CO., Pittsburgh, at \$21,243. Other bidders were, Safety Insulated Wire & Cable Co., New York, \$23,124; American Steel & Wire Co., Worcester, \$23,982; Pettingell-Andrews Co., Boston, \$32,672.

**Riprap**—Boston, Mass.—Bids will be received by the State Harbor and Land Commission, Boston, until Sept. 17, for furnishing and placing 300 tons of riprap along the Connecticut River, at Agawam, Mass.; for dredging a channel and constructing a jetty in Sandwich Harbor, and for dredging in Rock Harbor.

★**Canal and Factory Building**—Fitchburg, Mass.—The Fitchburg Gas & Electric Co. has awarded a contract to the J. J. PRINDIVILLE CO., Springfield, Mass., for the construction of about 1500 ft. of canal and a factory building at their plant.

★**Fire Station**—Holyoke, Mass.—Bids were received Sept. 10, by the Board of Public Works for a central fire-station

Canal, Sect. at Station 280 guard gate. N. Y., \$35,504

**Fences**—B until 3 p.m., Arsenal Bldg for furnishing Plot No. 1, M

**Dredging**—ceived until Borough Bro and in the c of Johnson and also in near the inte

**Dredging**—ceived until Docks, Dept. Place, North 1361. This in the borou and Richmor

**Shelter Pa** (Official)—Bi Dept. of Par Borough of M rials for the the Zoologica nishing and 1913) for Dep fort Pavilion grave & McD N. Y., \$8192; Kelly, Inc., I St., \$8979; R. Atee, 37 East 3 West 42d \$8444; broker (b) screening \$1.98; (b) \$2. (a) \$2.05; (b)

**Dredging**—Sept. 4 by R. Ferries, Pier of Manhatta pier: P. Sanf 50c.; R. G. F folk, Va., 30 EUGENE B tract).

★**Subway**—Oct. 1, by th the construc Seventh Ave sist of a fou about 70 ft. about 100 ft.

**Engine P** received unt Comr., 157 a the erection company on Academy St.

**Ash Elev** Bids will b Thompson, C nishing, deli other appur Jerome Ave.

**Swimmin** be received Borough of pools and a Nos. 242-248



t Hawesville,  
t contract for  
tract of land

been awarded  
ard of Public  
of Beargrass  
om and con-  
is \$365,797.

nd the Penn-  
to construct

d until Sept.  
cting a stone

received until  
or furnishing  
ing the low

Council has  
of the Great  
will involve  
he repair of  
C. Cummin is

ville is con-  
Ohio River to  
y Engr.

ns have been  
anapolis, by  
for a retain-  
bank of Fall  
s provide for  
ft. wide and

he construc-  
ounties, Ind.,  
O., Monterey,

ed until Sept.  
ge and Levee  
Hunt & Co.,  
Ill., for im-  
pproximately  
th a floating  
and scrapers

mmission has  
ees at Cairo,  
ort, Iowa, at

oard intends  
southeastern  
e paved and  
ore Country

Bids will be  
d Levee Dis-  
system. The  
e work, and  
ell, Jackson-

l be received  
wood Drain-  
airs and re-  
3 cu.yd., in-  
reconstruct-  
w ditch con-  
cu.yd., and  
ng.

will be re-  
rainage Dis-  
Ch...

floating-dredge work and for 315,000 cu.yd. of riverside levee enlargement and 600,000 cu.yd. of riverside levee enlargement. The contract was awarded to A. V. WILLS, at \$90,000. C. B. Bailey, Paragould, is Engr.

**Terminal**—Dallas, Tex.—(Official)—The Union Terminal Co., Dallas, Tex., is planning to begin work on the union terminal proposition in Dallas about Oct. 1 or Nov. 1. The site for the buildings has been cleared. C. H. Dana, Ch. Engr. and Murrell Buckner, Secy., are in charge of the work. The initial cost will be \$3,000,000. The entire cost will be several million dollars more.

**Artificial Lake**—Guthrie, Okla.—The Atchison, Topeka & Santa Fé Ry. Co. has awarded the contract to the CULBERT CO., Kansas City Mo., for the construction of an artificial lake east of Guthrie, Okla. It will cover 200 acres. The company has appropriated \$80,000 for the work.

**Dredge**—Seattle, Wash.—Paul P. Whitham, Engr., Port of Seattle Comn., has been instructed to prepare plans for the construction of a dredge. Estimated cost, \$200,000.

**Retaining Walls**—Portland, Ore.—The City Engineer has completed plans for constructing concrete retaining walls along Vista Ave., estimated cost, about \$25,000.

**Pier**—Portland, Ore.—The Public Dock Commission plans to construct Public Dock No. 2 of steel and concrete, fire-proof. It will include a recreation pier as a second story. The floors will be of concrete. Estimated cost, about \$417,000. Bids will be asked soon.

**Drainage**—Berkley, Calif.—Bids will be received by the Regents of the University of California, Berkeley, until Sept. 15 for excavating, laying tile, placing silt boxes and back-filling about 21,000 lin.ft. of drainage ditch on the Kearney Ranch, near Fresno, Calif.

**Tunnel Work**—Los Angeles, Calif.—The grade of the Broadway Tunnel will be lowered by underpinning the walls and relining with enameled tile. The cost will be \$115,000. Homer Hamlin is City Engr.

**Dredging**—Oakland, Calif.—The specifications for dredging 1,000,000 cu.yd. of earth from the western quay wall are being completed by Harry S. Anderson, Comr. Pub. Wks. Bids will be asked soon.

**Drydock**—San Diego, Calif.—The West Coast Drydock Co. will construct a floating drydock at San Diego. It will be 500 ft. long and 140 ft. wide. Estimated cost, \$1,000,000. Noted Aug. 28.

**Granite**—San Francisco, Calif.—See item under Buildings.

**Reconstruction of Wharf**—St. John, N. B.—The City Council has voted an appropriation of \$10,000 for the reconstruction of the wharf on the east side of the harbor.

**Breakwater**—Little Dipper Harbor, N. S.—Bids will be asked soon by R. C. Desrochers, Secy. Dept. Pub. Wks., Ottawa, Ont., for the construction of a breakwater at Little Dipper Harbor.

**Wharf Improvement**—Bastican, Que.—The contract has been awarded GRUYMER & DALTON, by R. C. Desrochers, Secy. Dept. Pub. Wks., Ottawa, Ont., for making improvements to the wharf at Bastican, at about \$15,000.

**Coal-Handling Plant**—Drummondville, Que.—The Intercolonial Ry. Co. will install a coal-handling plant at Drummondville. C. B. Brown, Moncton, N. B., is Ch. Engr.

**Dike**—Laprairie, Que.—Bids will be received until 4 p.m., Sept. 23, by R. C. Desrochers, Secy. Dept. Pub. Wks., Ottawa, Ont., for the construction of a protection dike at Laprairie.

**Wharf**—Montreal, Que.—The Montreal Harbor Commissioners are considering the construction of a concrete wharf, 500 ft. long. F. W. Cowie, 57 Common St., Montreal, is Engr.

**Rink**—Brampton, Ont.—The contract has been awarded to William Wedgewood, Brampton, for the construction of the proposed hockey rink, at about \$10,000. It will be one story, 200x100 ft., of brick and frame construction.

**Cement Dam**—Galt, Ont.—The contract has been award-

*Correct*



NORMAL ART SCHOOL  
OF  
MASSACHUSETTS.

1890 - 91.

GI

t Hav  
a cont  
tract

been  
ard o  
of Be  
om a  
is

nd th  
to co

d unt  
cting

ceive  
or fun  
sing

Cour  
of th  
will  
he re  
C. Cur

ville  
Ohio B  
ty En  
ns ha  
lanap  
for a  
bank  
s prov  
ft. w

he co  
ountie  
O., Mo

ed unt  
re and  
Hun  
Ill., f  
approx  
th a  
and s

miss  
ees a  
ort, I

oard  
south  
e pav  
more

Bids  
d Lev  
system  
e wo  
ell, Ja

l be r  
wood  
airs  
3 cu.  
reco  
w dit  
cu.y  
ng.

s will be  
rainage Dis-

+Cement Dam—Galt, Ont.—The contract has been award.



# CIRCULAR

OF THE

## Massachusetts Normal Art School,

CORNER OF NEWBURY AND EXETER STS., BOSTON.

*UNDER THE DIRECTION OF THE STATE BOARD OF EDUCATION.*

EIGHTEENTH YEAR, 1890-91.



BOSTON :

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,  
18 POST OFFICE SQUARE.

1891.

(

t  
a  
ti

be  
al  
oi  
oi

n

d  
et

ee  
or  
si

o  
h  
E.

v  
or  
ty  
ns  
la  
fo  
pa  
s  
f  
h  
o  
O

ec  
se  
il  
p  
t  
a

a  
e  
o  
o  
s  
e  
ac

B  
d  
s  
ne  
e

l  
v  
a  
3

v  
r  
s  
r

# State Board of Education.

---

HIS EXCELLENCY THE GOVERNOR.

HIS HONOR THE LIEUTENANT-GOVERNOR.

Hon. E. B. STODDARD,	Worcester.
Rev. ALONZO A. MINER, LL.D.,	Boston.
ADMIRAL P. STONE, LL.D.,	Springfield.
Mrs. KATE GANNETT WELLS,	Boston.
Hon. M. B. WHITNEY,	Westfield
ELMER H. CAPEN,	Medford.
Mrs. ALICE FREEMAN PALMER,	Cambridge.
GEORGE I. ALDRICH,	Quincy.

Secretary of the Board.

JOHN W. DICKINSON, A.M.

Assistant Secretary and Treasurer.

C. B. TILLINGHAST.

Agents of the Board.

GEORGE A. WALTON, A.M.	GEO. H. MARTIN, A.M.	JOHN T. PRINCE
HENRY T. BAILEY, Agent for the Promotion of Industrial Drawing.		

---

BOARD OF VISITORS, NORMAL ART SCHOOL.

Rev. A. A. MINER, D.D.

Mrs. KATE GANNETT WELLS.



1  
 2  
 3  
 4  
 5  
 6  
 7  
 8  
 9  
 10  
 11  
 12  
 13  
 14  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22  
 23  
 24  
 25  
 26  
 27  
 28  
 29  
 30  
 31  
 32  
 33  
 34  
 35  
 36  
 37  
 38  
 39  
 40  
 41  
 42  
 43  
 44  
 45  
 46  
 47  
 48  
 49  
 50  
 51  
 52  
 53  
 54  
 55  
 56  
 57  
 58  
 59  
 60  
 61  
 62  
 63  
 64  
 65  
 66  
 67  
 68  
 69  
 70  
 71  
 72  
 73  
 74  
 75  
 76  
 77  
 78  
 79  
 80  
 81  
 82  
 83  
 84  
 85  
 86  
 87  
 88  
 89  
 90  
 91  
 92  
 93  
 94  
 95  
 96  
 97  
 98  
 99  
 100  
 101  
 102  
 103  
 104  
 105  
 106  
 107  
 108  
 109  
 110  
 111  
 112  
 113  
 114  
 115  
 116  
 117  
 118  
 119  
 120  
 121  
 122  
 123  
 124  
 125  
 126  
 127  
 128  
 129  
 130  
 131  
 132  
 133  
 134  
 135  
 136  
 137  
 138  
 139  
 140  
 141  
 142  
 143  
 144  
 145  
 146  
 147  
 148  
 149  
 150  
 151  
 152  
 153  
 154  
 155  
 156  
 157  
 158  
 159  
 160  
 161  
 162  
 163  
 164  
 165  
 166  
 167  
 168  
 169  
 170  
 171  
 172  
 173  
 174  
 175  
 176  
 177  
 178  
 179  
 180  
 181  
 182  
 183  
 184  
 185  
 186  
 187  
 188  
 189  
 190  
 191  
 192  
 193  
 194  
 195  
 196  
 197  
 198  
 199  
 200  
 201  
 202  
 203  
 204  
 205  
 206  
 207  
 208  
 209  
 210  
 211  
 212  
 213  
 214  
 215  
 216  
 217  
 218  
 219  
 220  
 221  
 222  
 223  
 224  
 225  
 226  
 227  
 228  
 229  
 230  
 231  
 232  
 233  
 234  
 235  
 236  
 237  
 238  
 239  
 240  
 241  
 242  
 243  
 244  
 245  
 246  
 247  
 248  
 249  
 250  
 251  
 252  
 253  
 254  
 255  
 256  
 257  
 258  
 259  
 260  
 261  
 262  
 263  
 264  
 265  
 266  
 267  
 268  
 269  
 270  
 271  
 272  
 273  
 274  
 275  
 276  
 277  
 278  
 279  
 280  
 281  
 282  
 283  
 284  
 285  
 286  
 287  
 288  
 289  
 290  
 291  
 292  
 293  
 294  
 295  
 296  
 297  
 298  
 299  
 300  
 301  
 302  
 303  
 304  
 305  
 306  
 307  
 308  
 309  
 310  
 311  
 312  
 313  
 314  
 315  
 316  
 317  
 318  
 319  
 320  
 321  
 322  
 323  
 324  
 325  
 326  
 327  
 328  
 329  
 330  
 331  
 332  
 333  
 334  
 335  
 336  
 337  
 338  
 339  
 340  
 341  
 342  
 343  
 344  
 345  
 346  
 347  
 348  
 349  
 350  
 351  
 352  
 353  
 354  
 355  
 356  
 357  
 358  
 359  
 360  
 361  
 362  
 363  
 364  
 365  
 366  
 367  
 368  
 369  
 370  
 371  
 372  
 373  
 374  
 375  
 376  
 377  
 378  
 379  
 380  
 381  
 382  
 383  
 384  
 385  
 386  
 387  
 388  
 389  
 390  
 391  
 392  
 393  
 394  
 395  
 396  
 397  
 398  
 399  
 400  
 401  
 402  
 403  
 404  
 405  
 406  
 407  
 408  
 409  
 410  
 411  
 412  
 413  
 414  
 415  
 416  
 417  
 418  
 419  
 420  
 421  
 422  
 423  
 424  
 425  
 426  
 427  
 428  
 429  
 430  
 431  
 432  
 433  
 434  
 435  
 436  
 437  
 438  
 439  
 440  
 441  
 442  
 443  
 444  
 445  
 446  
 447  
 448  
 449  
 450  
 451  
 452  
 453  
 454  
 455  
 456  
 457  
 458  
 459  
 460  
 461  
 462  
 463  
 464  
 465  
 466  
 467  
 468  
 469  
 470  
 471  
 472  
 473  
 474  
 475  
 476  
 477  
 478  
 479  
 480  
 481  
 482  
 483  
 484  
 485  
 486  
 487  
 488  
 489  
 490  
 491  
 492  
 493  
 494  
 495  
 496  
 497  
 498  
 499  
 500  
 501  
 502  
 503  
 504  
 505  
 506  
 507  
 508  
 509  
 510  
 511  
 512  
 513  
 514  
 515  
 516  
 517  
 518  
 519  
 520  
 521  
 522  
 523  
 524  
 525

## Faculty and Officers of the School.

---

GEORGE H. BARTLETT, . . . . . Principal.  
JOHN W. DICKINSON, A.M., . . . . . Lecturer, Principles and Methods of Teaching.

---

### INSTRUCTORS.

GEORGE H. BARTLETT, . . . . . Modelling from Antique Figure and Life.  
Historic Ornament and Design.  
DERISTHE L. HOYT, . . . . . Painting in Water Color. Historic Schools of  
Painting. Design.  
ALBERT H. MUNSELL, . . . . . Drawing and Painting from the Antique Figure  
and Living Model. — Anatomy. Decorative  
Design.  
MERCY A. BAILEY, . . . . . Painting in Oil. — Design.  
ANSON K. CROSS, . . . . . Freehand Drawing. Perspective. Design.  
M. LOUISE FIELD, . . . . . Drawing in the Public Schools.  
ANNIE E. BLAKE, . . . . . Modelling and Casting. Design in the Round.  
GEORGE JEPSON, . . . . . Descriptive Geometry. Machine Drawing.  
HENRY H. KENDALL, . . . . . Building Construction. Architectural Design.  
JOHN L. FRISBIE, . . . . . Ship Draughting.

---

MARY T. JONES, . . . . . Curator.





# Massachusetts Normal Art School.

---

In view of the great importance of drawing as a branch of education, the Legislature, by an Act passed May 16, 1870, made instruction in this branch obligatory in the public day schools, and required cities and towns containing more than ten thousand inhabitants to make provision for free instruction in industrial drawing to persons over fifteen years of age. This Act met with much public favor; but it was soon found that it was impossible to realize satisfactorily the benefits intended by the Act, for want of competent teachers. A Resolve was therefore passed by the Legislature, providing for the establishment and maintenance of a State Normal Art School.

## DESIGN OF THE SCHOOL.

This school is intended to be a training school for teachers of industrial art. The specific aim at present is to prepare instructors to teach and superintend industrial drawing in the schools of the State. It also aims to provide for high skill in technical drawing, and for industrial art culture.

## LOCATION.

Corner of Newbury and Exeter streets, Boston.

## CONDITIONS OF ADMISSION.

Candidates for admission must be above sixteen years of age; must bring a certificate of good moral character from some

well-known person in the town in which they reside ; and must be able to pass an examination in the common English branches of study, and in freehand drawing of ornament from copy.

Applicants for admission to class A must pass examinations in the following subjects : —

1. Model Drawing (outline).
2. Model Drawing (shaded).
3. Historic Ornament (outline from cast).

These examinations will be held at the beginning of each school year. Tuition is free to students residing within the State and intending to teach drawing in the public schools, but five dollars per term will be charged for incidentals. Tuition for students from without the State is fifty dollars per term. Students who have not passed through class A are not regarded as regular students of the school, and therefore are required to pay a fee of fifty dollars per term, which entitles them to enter classes B, C or D, and receive class instruction in such subjects as are taught in those classes. All fees are to be paid in advance to the curator.

#### COURSE OF INSTRUCTION.

The school offers a four years' course (see class A) of training in the scientific and artistic branches, and their practical application to industry, and a two years' course of training for the work of teaching and supervising drawing in the public schools. The work of class A is devoted to elementary drawing ; of class B, to painting, and design for surface decoration ; of class C, to the constructive arts and design ; and of class D,

to modelling and design in the round. Many of the lectures are given during the first term, and cannot be repeated during the second term. For the work of classes A, B or D, the student, if desirous, will receive a written statement from the principal. Students having completed the work of classes A and C will receive a diploma certifying that they are qualified to teach mechanical and architectural drawing; those having completed the work of classes A, B and D, one certifying to their qualifications to teach industrial art.

Upon entering class A, choice will be given each pupil of beginning a course of study that will fit him especially for teaching and supervising drawing in the public schools, or one that will prepare him to teach the broad subject of industrial art. The former course will cover two years' time, and will include the works of class A. A special certificate will be given at its close. Those desiring to enter this division of class A must pass examination in the following subjects: 1. English Grammar and Composition. 2. History of the United States. 3. Geography. 4. Plane Geometry. 5. Elementary Botany. 6. Elementary Physiology. Pupils who have completed the industrial art course of class A, and desire afterward to fit themselves for public-school work, can enter this division by passing the necessary examinations.

#### CLASS FOR THE FIGURE AND ITS INDUSTRIAL APPLICATIONS.

Students who have completed classes B or D are eligible for the antique class, and will be promoted to the work from life upon proving their fitness therefor. They are required to take notes of the lectures on the figure and its decorative uses; to



follow a course of reading outside of class hours, and produce at least one original design during the year.

A course of lectures on artistic anatomy will be given every second year, open to all advanced students, and followed by an examination of their note books.

#### CONSTRUCTION.

In view of the fact that the scientific principles involved in the constructive arts are taught in class C, each student will be required to construct one or more objects in wood, from his working drawings. This exercise will show the use and application of drawing to construction. Instruction will be given in the use of the necessary tools for this purpose.

#### EXAMINATIONS.

In addition to the regular certificate works, class exercises in the subjects studied during the year must be submitted, to show whether the student has acquired the knowledge and manipulative skill necessary for teaching industrial art. Students failing to pass in any subject may apply again the next year, on condition that they again perform all the regular class work required in that study; but they will not receive any certificate until all the subjects of examination have been passed, and all certificate works approved.

#### POST-GRADUATE COURSE.

Graduated students may continue the course of study for one year, without payment of fees, on condition that, if called upon

by the principal, they will devote some of their time to teaching in the school.

#### RECOMMENDATION FOR APPOINTMENT.

Those who may be in need of thoroughly trained teachers of drawing for the public schools, or special teachers of drawing, painting, modelling in clay and design, are requested to apply directly to the principal. All such applications will be brought to the attention of such students as are judged to be prepared to do the required work.

#### REGULATIONS OF THE SCHOOL.

All materials and apparatus required are to be provided by the students; no examples for instruction can be removed from the school by them, and any damage done to the property of the school must be paid for by those causing it.

Attendance will be registered daily, and absence or tardiness must be explained to the instructors. Excuses will be granted by the principal only upon application made through the instructor of the class.

Every student will be provided with a locker, in which to keep boards and drawing materials. On receiving the key, the student must deposit one dollar as a guarantee that the key will be returned; when this is done, the money will be refunded. Keys lost or broken by students must be replaced by them.

The only works allowed to be executed in the school are those required by the instructors to illustrate their lectures or lessons, and those on the list of certificate works.

Each instructor will require a certain amount of work to be done by the students between lectures, which must be regarded as a part of the regular school work.

Any text-book required for use or reference will be indicated by the instructor.

Students may remain in any class for two years, but, having failed to complete the required work within that time, will be considered as no longer belonging to it, and can complete this course of study only as special students.

Students who have passed through class A, and whose appointments as teachers of drawing prevent their attendance at the school, upon the payment of the regular fees, and fulfilling all the requirements of any succeeding class, will be treated as if in attendance at the school.

Any certificate work which, in the opinion of the principal, does not show sufficient skill to qualify the student to teach the subject, will be rejected, and another one required.

Students are required to take the examinations and lecture work in any subject during the year in which the certificate drawing is made. In case of failure, they may present themselves for examination the next year, provided they again attend the lectures and do the required work.

Not less than one work nor more than two works from the set belonging to each student will be retained as the property of the school.

The discipline of the school is made as simple as possible; pupils are expected to govern themselves, to do without compulsion what is required, and to refrain from all improprieties of conduct; those who are unwilling to conform to the known



wishes of the teachers, are presumed to be improper persons to continue in the school.

All persons presenting themselves for admission to the school are judged to have read these regulations, and the signed application is considered a pledge to abide by them.

#### SCHOOL YEAR.

The school year of 1880-91 will begin October 1, 1890, and close the last Friday in June, 1891.

The year is divided into two terms: the first comprises the months of October, November, December, January and the first half of February; the second, beginning February 23, the months of March, April, May and June.

#### SESSIONS.

Instruction is given from 9 A.M. to 2 P.M., on Monday, Tuesday, Wednesday, Thursday and Friday.

#### VACATIONS AND HOLIDAYS.

Thanksgiving Day and the remainder of the week. Christmas Day to New Year's Day, inclusive. From February 13 to February 23, Washington's Birthday, Good Friday, Fast Day. One week, beginning with the second Monday in April, and Decoration Day.

## SPECIAL NOTICE.

1. The school cannot officially recognize the fitness of students to accept positions as teachers of drawing, who have merely performed the work of class A.

2. Students of the advanced classes, seeking positions as teachers, should first consult with the principal and his associate teachers as to their fitness.

3. Those students who are qualified in all particulars to take positions as teachers of drawing will be given a letter of introduction addressed to such person or persons as may be required by the student, signed by the Principal and Faculty.

## Commonwealth of Massachusetts.



Massachusetts Normal Art School.

NEWBURY, COR. EXETER ST.

Boston,

18

G. H. BARTLETT, *Principal.**Mr.**Dear Sir, — Allow me to introduce a pupil of this school, Mr.*

*... who is desirous of*  
*obtaining a position*

*Having followed the course of study*

*and passed satisfactory examination, the faculty believe*

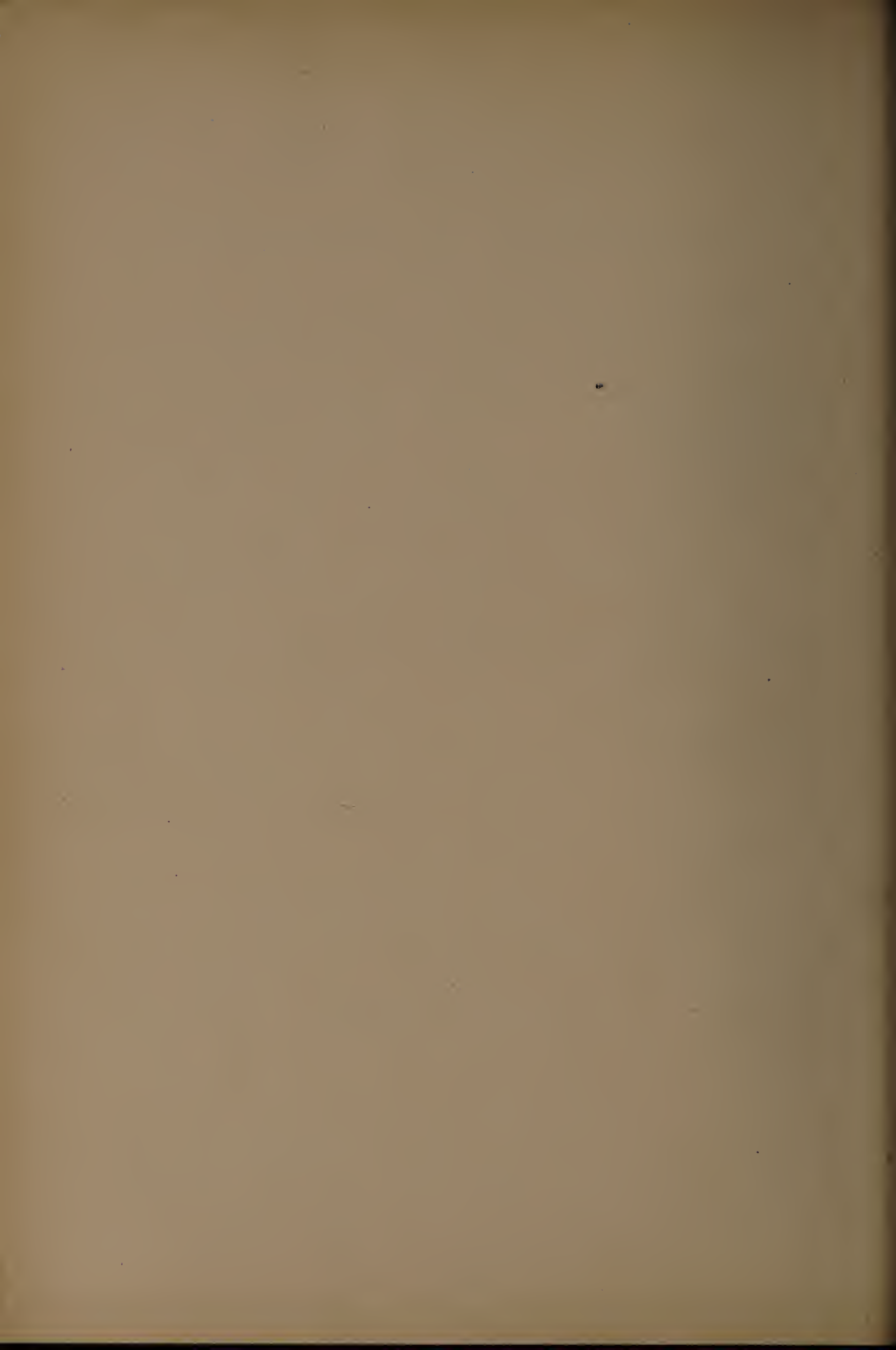
*fitted for such work and ask that* *be permitted to*

*present* *as a candidate for the position*

*Signed*

*For the Faculty.*





## Class A.

---

### ELEMENTARY DRAWING.

#### LIST OF DRAWINGS REQUIRED.

1. Geometric Problems.
2. Perspective Problems.
3. Orthographic Projection.
4. Projection of Shadows.
5. Machine Drawing.
6. Building Construction.
7. Model Drawing in Outline.
8. Model Drawing shaded in water color (monochrome).
9. Model Drawing shaded in charcoal.
10. Light and Shade Drawing from a group of colored objects.
11. Outline of group of common objects.
12. Details of the human figure, from the cast.
13. Details of animal form; from cast.
14. Ornament from cast, shaded in chalk with point or stump.
15. Exercises in Design, showing principles and methods.
16. An original practical design for the flat or round.
17. Analysis of plant and insect form, from nature, for the purpose of design.
18. Analysis of Styles of Historical Ornament.

## EXAMINATION FOR CERTIFICATE.

Students will be examined in the following subjects : —

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Plane Geometrical Drawing. | 7. Projection of Shadows.           |
| 2. Orthographic Projection.   | 8. Machine Drawing.                 |
| 3. Perspective.               | 9. Building Construction.           |
| 4. Drawing from Object.       | 10. Historical Ornament.            |
| 5. Theory of Model Drawing.   | 11. Teaching in the Public Schools. |
| 6. Isometric Projection.      |                                     |

List of examinations for entrance on page 8.

The work in projection must be completed the first year in all cases where students devote two years to class A ; otherwise they cannot continue in that class.



## Drawing in the Public Schools.

The following is a comprehensive plan of the work of this department : —

### FIRST YEAR.

1. Elements of Psychology.
2. Outline Course of Drawing for Primary and Grammar Schools.
3. Practice Teaching.

### SECOND YEAR.

1. History of Education.
2. Principles and Methods of Teaching.
3. Outline Course of Drawing for High and Evening Schools.
4. Practice Teaching.
5. Consideration of following subjects : —
  - a. Drawing in its various relations to the Public Schools.
  - b. Practical details of Supervisor's Work.
6. Presentation of the subject of Drawing by each Pupil before a Body of assumed Teachers.

## Class B.

## PAINTING AND DESIGN FOR SURFACE DECORATION.

ADVANCED PERSPECTIVE.

PRACTICE IN WATER COLORS AND OILS.

INDUSTRIAL DESIGN, HISTORIC SCHOOLS OF PAINTING (HOME-WORK).

## LIST OF CERTIFICATE WORKS.

## PAINTING IN WATER COLORS.

1. Flower and Foliage from Nature.
2. Group as a Study for Composition and Color.

## DRAWINGS.

3. Study of Antique Figure from Cast.
4. Anatomical Details.
5. Perspective, Shadows, Reflections and Aerial Effects.

## PAINTING IN OIL.

6. Study in Monochrome from Still Life.
7. Group as a Study for Composition and Color.

## DESIGN—SURFACE DECORATION.

8. Sketch Book Relative to the Subject of Design.

- 
9. An original practical design in color. This design must be worked to scale.

The work in perspective and an original design must be completed the first year in class B in all cases where students intend to devote two years to the class.

The designs in classes B, C and D must be made in accordance with a proposition to be given at the beginning of each school year.

#### EXAMINATIONS FOR CERTIFICATE.

##### PRACTICE.

1. Time sketch in oil, of a group of objects and still life.
2. Time sketch in water colors, of objects and still life.

##### THEORY.

3. Paper on the application of surface ornament to industrial purposes.
4. Paper on the principles and styles of the historic schools of painting.
5. Perspective, aerial shadows and reflections.

## Class C.

## CONSTRUCTIVE ARTS AND DESIGN.

DESCRIPTIVE GEOMETRY.  
MACHINE DRAWING — CONSTRUCTION.  
ARCHITECTURAL DESIGN.

## LIST OF CERTIFICATE WORKS.

## ARCHITECTURAL DESIGN AND BUILDING CONSTRUCTION.

1. Design for a house or public building, showing plans, elevations, sections and perspective, on one sheet.
2. Structural details, on an enlarged scale, of floors, windows, roof and staircase, of the first subject.
3. Monograph of the ancient, mediæval or modern styles of architecture and ornament.
4. Drawing of a building to scale from actual measurement of the structure ; plans and two geometric elevations.

## MACHINE DRAWING — CONSTRUCTION AND DESIGN.

5. Sheet of screws, and application of screw forms.
6. Sheet of wheels, spur, bevel, cams, eccentrics, gearing.
7. Plan, elevation and section of a locomotive or engine, from copy.
8. Drawing to scale from a drill, pump or machine, from measure.
9. Details of same prepared for shop.



## DESCRIPTIVE GEOMETRY.

10. Sheet of illustrations, in outline, from lectures on descriptive geometry. Development of surfaces.
11. Sheet of intersections of solids and projection of shadows ; tinted.
12. Ship draughting. Lines of a boat. (Model of same.)  
Two designs must be made by each student, in accordance with the given proposition. (See class B.)

## EXAMINATIONS FOR CERTIFICATE.

## ARCHITECTURAL DESIGN.

1. Paper on the styles of architecture and ornament illustrated in the monograph.
2. Paper on building construction in the several materials used.
3. Design for a building in the style employed for the certificate work, complying with given conditions.  
Sketches required.
4. Design for details of ornament.
5. Perspective applied to architecture.

## MACHINE DESIGN.

6. Paper on details of machinery.
7. Drawing to scale from a machine placed in the examination room.

## DESCRIPTIVE GEOMETRY.

8. Paper on solid geometry and projection of shadows.

## Class D.

## MODELLING AND DESIGN IN THE ROUND.

## MODELLING AND CASTING.

## LIST OF CERTIFICATE WORKS.

## ORNAMENT.

1. Historic ornament in one style from the cast.
2. Study of ornament from flat copy.
3. An original design in clay for the exterior or interior decoration of a building.

## FIGURE.

4. Portrait head from nature, life size, in the round or relief.
5. Bas-relief from antique figure in the round.
6. Anatomical rendering of details from an antique figure.
7. Bust, or bas-relief from the antique.
8. An original grotesque head (either human or animal).

## CASTS.

9. Cast from nature of an arm, hand, foot or mask.
10. Cast from nature of foliage, fruit or flowers.
11. Casts from a piece-mould, sulphur-mould and gelatine-mould, made by the student from his own models or selected works.

## EXAMINATIONS FOR CERTIFICATE.

## THEORY.

1. Paper on sculptured ornament of the historical schools.
2. Paper on design applied to objects in the round ; viz., plaster, terra-cotta, wood work (constructional and sculptured), metal (cast and wrought), stone, marble, etc.
3. Paper on sculpture of the human figure.

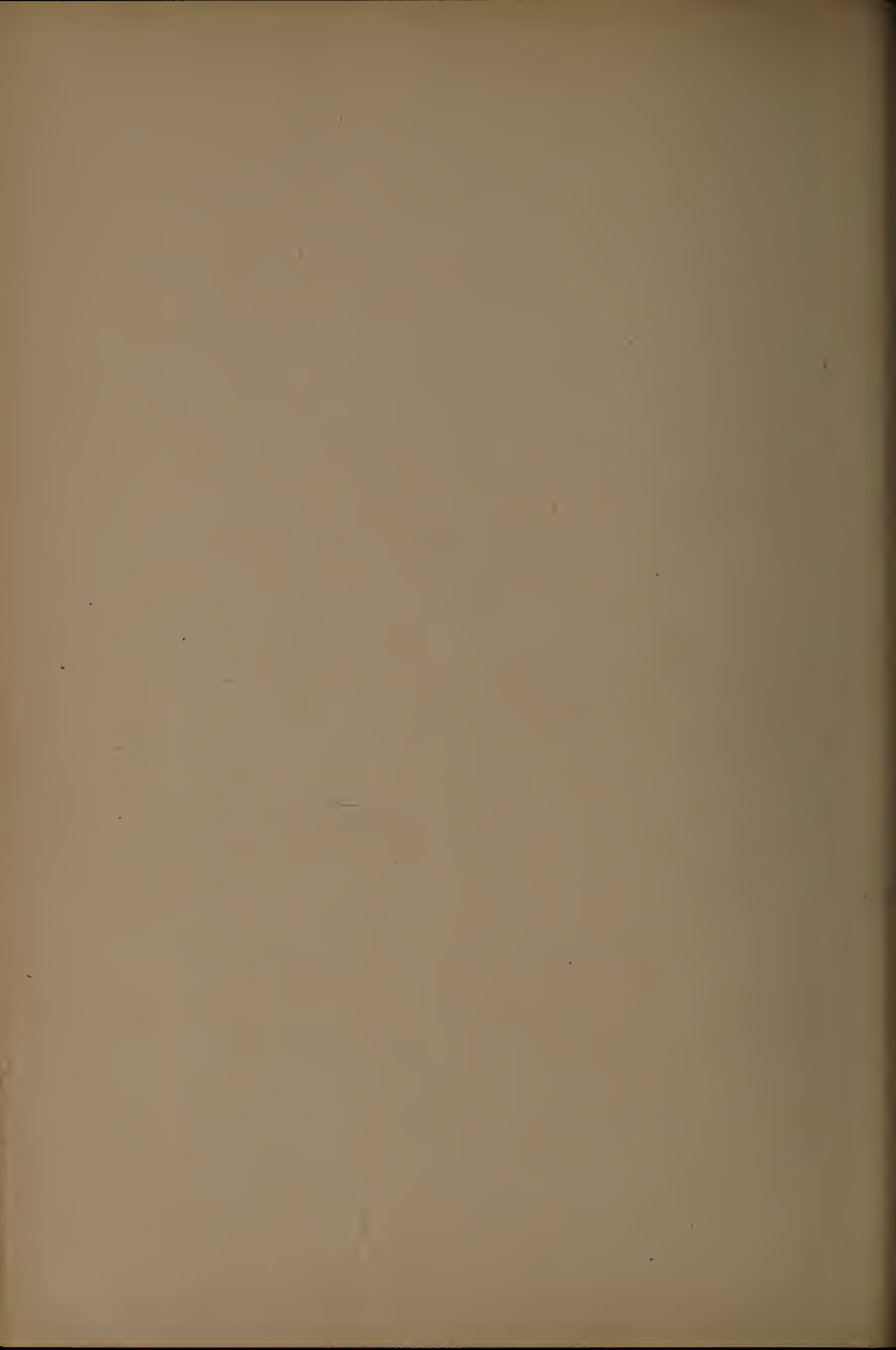
## PRACTICE.

4. To sketch in clay a relief copy of a piece of ornament from the cast or shaded copy.
5. To model a relief from the antique in the round.

## NOTICE CONCERNING CERTIFICATE WORKS.

Four of the eleven certificate models are to be of imperial size, or in the round, and one is to be cast by the student, and left in the school as a specimen.

The works are to be examples of bas-relief, of mezzo-relief, alto-relief, or the round.





# List of Students

WHO, HAVING PASSED THE EXAMINATION AND COMPLETED THE CERTIFICATE WORKS IN THE SEVERAL CLASSES ENUMERATED BELOW, HAVE RECEIVED CERTIFICATES OR THE DIPLOMA.

NOTE.—The numerals under each class signify the year (since 1870) in which the student, whose name is opposite, received the certificates.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. C.	Diplomas, Public school class.
	A.	B.	C.	D.					A.	B.	C.	D.			
Avery, Helen W. . . . .	75	79	-	-	-	-	-	Ballord, Emma P. . . . .	80	82	-	-	-	-	-
*Anthony, Alfred J. . . . .	75	-	-	-	-	-	-	Brown, Lucy L. . . . .	80	83	-	-	-	-	-
Atwood, Evelyn . . . . .	77	-	-	-	-	-	-	Bryant, Wallace . . . . .	81	83	82	84	84	84	-
Adams, S. Herbert . . . . .	78	82	83	83	83	83	-	Bragdon, Emmie W. . . . .	81	83	-	84	-	84	-
Attwill, Lizzie B. . . . .	78	79	-	80	-	80	-	Balch, A. L. . . . .	81	-	-	-	-	-	-
Adams, Chas. L. . . . .	79	-	-	-	-	-	-	Borland, Eva M. . . . .	81	-	-	-	-	-	-
Allen, Ralph W. . . . .	81	-	82	-	-	-	-	Black, Olive P. . . . .	82	-	-	-	-	-	-
Adams, Dora M. . . . .	81	82	-	-	-	-	-	Blake, Harold L. . . . .	82	-	87	-	87	-	-
Andros, Annie H. . . . .	85	87	-	-	-	-	-	Buck, N. Eveline. . . . .	82	82	-	-	-	-	-
Austin, Alice . . . . .	85	86	-	-	-	-	-	Banfield, Gertrude E. . . . .	82	-	-	-	-	-	-
Alden, Mary S. . . . .	86	-	-	-	-	-	-	Ball, Lois E. . . . .	83	-	-	-	-	-	-
Anderson, Mary E. . . . .	88	-	-	-	-	-	89	Bancroft, Milton H. . . . .	83	84	85	86	85	86	-
Asbrand, Emma A. . . . .	89	-	-	-	-	-	89	Bumstead, Mary G. . . . .	83	-	-	-	-	-	-
Ackerman, Pearl M. . . . .	89	-	-	-	-	-	-	Blake, Annie E. . . . .	84	86	-	87	-	87	-
Andrew, Richard . . . . .	89	90	-	-	-	-	-	Bailey, Henry T. . . . .	84	85	84	87	84	87	-
Allen, Elizabeth C. . . . .	90	-	-	-	-	-	90	Bates, Florence M. . . . .	84	90	-	-	-	-	-
Beer, John A. . . . .	74	-	-	-	-	-	-	Bates, Eliza J. . . . .	84	-	-	-	-	-	-
Berry, A. Hun . . . . .	74	-	-	-	-	-	-	Batchelder, Mary A. . . . .	84	85	-	-	-	-	-
Briggs, William . . . . .	74	-	78	-	-	-	-	Bartlett, M. Lizzie . . . . .	84	-	-	-	-	-	-
Baker, Lucas . . . . .	74	75	79	78	79	79	-	Byron, Mattie E. . . . .	84	-	-	-	-	-	-
Bowler, Emiline F. . . . .	75	78	-	80	-	80	-	Bartlett, Ethel G. . . . .	85	87	-	-	-	-	-
*Barry, Chas. A. . . . .	75	75	-	77	-	-	-	*Bathrick, Alice R. . . . .	85	-	-	-	-	-	-
Brackett, W. F. . . . .	75	-	78	81	78	81	-	Bailey, Cora L. . . . .	86	88	-	89	-	89	-
Ball, Fannie E. . . . .	75	-	-	-	-	-	-	Blaisdell, Anna K. . . . .	86	-	-	-	-	-	-
Benham, Marion L. . . . .	75	-	-	-	-	-	-	Bates, Grace L. . . . .	87	-	-	-	-	-	-
Bowditch, Ellen O. . . . .	75	-	-	-	-	-	-	Bolan, Marion . . . . .	87	89	-	-	-	-	-
Brammer, Joseph. . . . .	75	75	-	-	-	-	-	Briggs, Eda . . . . .	87	89	-	-	-	-	-
Bailey, Mercy A. . . . .	75	-	-	-	-	-	-	Bustin, Hettie C. . . . .	87	-	-	-	-	-	-
Bucklin, William S. . . . .	76	-	-	-	-	-	-	Brown, Eugenia R. . . . .	88	89	-	-	-	-	-
Booth, Etta E. . . . .	76	-	-	-	-	-	-	*Bird, Edith J. . . . .	89	-	-	-	-	-	-
Belleville, Hattie M. . . . .	76	-	-	-	-	-	-	Boyd, Maurice C. . . . .	89	-	-	-	-	-	89
Burrage, Hattie A. . . . .	76	80	-	-	-	-	-	Berney, Grace L. . . . .	89	-	-	-	-	-	-
Binney, Anna S. . . . .	76	-	-	-	-	-	-	Brown, Harold H. . . . .	89	-	-	-	-	-	-
Bradbury, Elenora C. . . . .	77	78	81	79	81	81	-	Brauner, Olaf M. . . . .	89	-	-	-	-	-	-
Bartlett, Mary G. . . . .	77	79	-	-	-	-	-	Blake, Mary A. . . . .	90	-	-	-	-	-	-
Babbitt, Annie M. . . . .	77	-	-	-	-	-	-	Carleton, Hannah E. . . . .	74	82	-	-	-	-	-
Burrison, Henry K. . . . .	78	-	-	-	-	-	-	Carney, Ellen D. . . . .	74	75	-	80	-	-	-
Brown, Hannah M. . . . .	78	-	-	-	-	-	-	Crawford, James W. . . . .	74	-	-	-	-	-	-
Birney, Wm. V. . . . .	78	79	-	-	-	-	-	Clapp, Mary E. . . . .	74	77	-	-	-	-	-
Beals, Willis H. . . . .	78	79	-	-	-	-	-	Cleveland, Julia H. . . . .	75	-	-	-	-	-	-
Brown, Maria L. . . . .	78	-	-	-	-	-	-	Colby, Eugene C. . . . .	75	77	-	-	-	-	-
Brewster, Geo. T. . . . .	79	80	-	-	-	-	-	Carter, Walter E. . . . .	75	-	-	-	-	-	-
Bartlett, Carrie G. . . . .	79	-	-	-	-	-	-	Clark, Fannie P. . . . .	76	-	-	-	-	-	-
Balch, Clara H. . . . .	79	-	-	-	-	-	-	Carter, Chas. M. . . . .	76	78	79	79	79	79	-

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.	
	A.	B.	C.	D.						A.	B.	C.	D.				
*Curtis, Annie E. . . .	76	77	-	-	-	-	-	-	Dupree, Annie E. . . .	76	-	-	-	-	-	-	-
Coburn, Bella . . . .	76	78	-	-	-	-	-	-	Dimock, Elizabeth F. . .	76	-	-	-	-	-	-	-
*Cook, Herman E. . . .	77	-	-	-	-	-	-	-	Dupree, Octavia G. . . .	76	79	-	-	-	-	-	-
Coffin, Clara A. . . .	77	-	-	-	-	-	-	-	Davis, Annie M. . . .	77	78	79	78	79	79	-	-
Cheney, Alice E. . . .	78	80	-	-	-	-	-	-	Dowe, Lemuel A. . . .	79	-	-	-	-	-	-	-
Creighton, Hattie R. . .	78	-	-	-	-	-	-	-	Dyer, Florence A. . . .	80	-	-	-	-	-	-	-
Colcord, Clara M. . . .	78	80	-	-	-	-	-	-	*Dow, Grace L. . . .	81	-	-	-	-	-	-	-
Collins, Frank H. . . .	79	80	-	-	-	-	-	-	Damon, Evelina M. . . .	83	85	-	-	-	-	-	-
Carleton, Herbert E. . .	79	-	-	-	-	-	-	-	*Dinsmore, Chas. H. . .	83	-	89	-	89	-	-	-
Church, George B. . . .	80	-	-	-	-	-	-	-	Dowse, Fannie C. . . .	83	-	-	-	-	-	-	-
Cook, Lucy R. . . .	80	84	-	-	-	-	-	-	Dutton, Alice M. . . .	83	85	-	-	-	-	-	-
Carleton, Harriet E. . .	80	-	-	-	-	-	-	-	Dyer, Carrie E. . . .	83	-	-	-	-	-	-	-
Christie, Helen . . . .	80	-	-	-	-	-	-	-	Damon, Nellie L. . . .	84	-	-	-	-	-	-	-
Copeland, Edith S. . . .	80	-	-	-	-	-	-	-	Dodge, Charles C. . . .	85	-	-	-	-	-	-	-
Chapin, Mary . . . .	81	-	-	-	-	-	-	-	Dix, Martha M. . . .	86	89	-	-	-	-	-	-
Collins, Alice M. . . .	81	-	-	-	-	-	-	-	Dalrymple, Amy F. . . .	86	88	-	89	-	89	-	-
Carter, Mary A. . . .	81	-	-	-	-	-	-	-	Day, Elizabeth A. . . .	87	-	-	-	-	-	-	-
*Church, Wallace B. . .	82	-	-	-	-	-	-	-	Davis, Emily S. . . .	87	89	-	-	-	-	-	-
Codding, Julia P. . . .	82	-	-	-	-	-	-	-	Dewick, Mary G. . . .	87	89	-	90	-	90	-	-
Cross, Anson K. . . .	82	82	83	-	83	-	-	-	Davis, Marion . . . .	88	90	-	-	-	-	-	-
Carter, Hannah J. . . .	82	83	-	-	-	-	-	-	Davis, Minnie I. . . .	88	90	-	-	-	-	-	-
Clark, Fannie M. . . .	82	83	-	-	-	-	-	-	Dimock, Clara G. . . .	88	89	-	-	-	-	-	-
Cleaves, Florence . . .	83	85	84	86	84	86	-	-	Dawson, George W. . . .	89	-	-	-	-	-	-	-
Calrow, Alice B. . . .	84	85	-	-	-	-	-	-	Driscoll, Mary L. . . .	90	-	-	-	-	-	-	-
Carter, Fannie E. . . .	84	-	-	-	-	-	-	-	Dennett, Nora M. . . .	90	-	-	-	-	-	-	-
Crooks, Fanny E. . . .	84	-	-	-	-	-	-	-	Dow, Lewis A. . . .	90	-	-	-	-	-	-	-
Chadwick, Josephine T. .	85	86	-	-	-	-	-	-	Dreager, Ella M. . . .	90	-	-	-	-	-	-	-
Clark, Florence G. . . .	85	-	-	-	-	-	-	-	Davenport, Alice F. . .	90	-	-	-	-	-	-	-
Comstock, Alma . . . .	86	-	88	-	88	-	-	-	Daniels, Fred H. . . .	90	-	-	-	-	-	-	-
Carr, Mary E. . . .	86	88	-	89	-	89	-	-	Emerson, Fannie S. . . .	75	-	-	-	-	-	-	-
Condon, Harriet D. . . .	86	89	-	-	-	-	-	-	Elliott, George B. . . .	77	-	-	-	-	-	-	-
Collins, Ida . . . .	86	88	-	-	-	-	-	-	Edmans, Lena P. . . .	79	81	-	81	-	81	-	-
Coggeshall, Elizabeth C. .	86	-	-	-	-	-	-	-	Everett, Sadie E. . . .	82	-	-	-	-	-	-	-
Calderwood, James . . .	86	88	89	88	89	88	-	-	England, Wm. A. . . .	82	84	-	84	-	84	-	-
Camfill, Florence J. . .	87	-	-	-	-	-	-	-	Emmins, Charlotte J. . .	83	86	-	-	-	-	-	-
Capen, Florence J. . . .	87	89	-	-	-	-	-	-	Eaton, Eliza S. . . .	84	86	-	88	-	88	-	-
Clifford, May L. . . .	87	-	-	-	-	-	-	-	Ellinwood, Minnie C. . .	84	86	-	-	-	-	-	-
Creveling, Lizzie . . . .	87	-	-	-	-	-	89	-	Evans, Gertrude M. . . .	85	-	-	-	-	-	-	-
Carpenter, Bernard V. . .	88	90	-	-	-	-	-	-	Edminster, C. Frank . .	86	-	86	-	86	-	-	-
Carter, Willie S. . . .	88	-	-	-	-	-	-	-	Eager, Anna F. . . .	88	-	-	-	-	-	89	-
Chamberlain, Annie B. .	88	90	-	-	-	-	90	-	Ela, Clara G. . . .	88	-	-	-	-	-	-	-
Clark, Edith N. . . .	88	89	-	-	-	-	-	-	Elliott, Grace . . . .	90	-	-	-	-	-	90	-
Clark, L. Eugenie . . . .	89	90	-	-	-	-	-	-	Ellery, May . . . .	90	-	-	-	-	-	-	-
Chapin, Hattie F. . . .	89	90	-	-	-	-	-	-	French, Loresta E. . . .	74	-	-	-	-	-	-	-
Cross, Evelyn F. . . .	90	-	-	-	-	-	-	-	*Fisher, Maud R. . . .	75	77	-	-	-	-	-	-
Carrier, Jennie M. . . .	90	-	-	-	-	-	-	-	Francis, Ellen A. . . .	77	-	-	-	-	-	-	-
Chamberlin, Frances M. .	90	-	-	-	-	-	-	-	Farley, Helen S. . . .	78	80	-	82	-	82	-	-
Coleman, Martha M. . . .	90	-	-	-	-	-	-	-	Fowler, John S. . . .	78	-	79	-	-	-	-	-
Colby, Elizabeth C. . . .	90	-	-	-	-	-	-	-	Flagg, Linna B. . . .	78	79	-	-	-	-	-	-
Cook, Mary L. . . .	90	-	-	-	-	-	-	-	Flagg, Hiram P. . . .	78	-	-	-	-	-	-	-
Comerford, Thomas J. . .	90	-	-	-	-	-	-	-	Folger, Lizzie M. . . .	79	81	-	-	-	-	-	-
Dean, Walter L. . . .	74	-	-	-	-	-	-	-	Furbush, M. Josephine .	79	80	-	81	-	81	-	-
Dudley, L. Hannah . . .	74	-	-	-	-	-	-	-	Fairbanks, Harold W. . .	80	-	-	-	-	-	-	-
*Day, Lizzie G. . . .	75	78	80	81	81	81	-	-	Ferson, Earl B. . . .	80	82	81	83	83	83	-	-

\* Deceased.



NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.
	A.	B.	C.	D.					A.	B.	C.	D.			
Field, Luisa M. . . .	80	-	-	-	-	-	-	Holmes, Olivia S. . .	76	-	-	-	-	-	-
Falk, Albion W. . . .	83	-	-	-	-	-	-	Hapgood, Melvin P. .	76	-	-	-	-	-	-
Frost, Clara D. . . .	84	-	-	-	-	-	-	Howard, Mary . . . .	76	77	79	79	79	79	-
Fuller, Lucretia J. . .	84	86	-	-	-	-	-	Howard, Adelia K. . .	76	-	-	-	-	-	-
Friend, Nannie S. . . .	85	-	-	-	-	-	-	Halcott, Calista . . .	77	-	-	-	-	-	-
Fitfield, Alice M. . . .	85	-	-	-	-	-	-	Holmes, Henry . . . .	77	-	-	-	-	-	-
French, Fanny T. . . .	86	-	-	-	-	-	-	Horsford, Gertrude H.	77	-	-	-	-	-	-
Fleming, A. Barbara . .	86	88	-	-	-	-	-	Howard, G. M. . . . .	77	-	-	-	-	-	-
Frizzell, Joseph A. . .	86	88	-	88	-	88	-	Huntington, Carrie M.	77	78	79	80	80	80	-
Ferris, Allyne E. . . .	87	89	-	-	-	-	-	Holland, Chas. J. . . .	78	-	-	-	-	-	-
Frederick, Frank F. . .	87	89	88	90	88	90	-	Hill, Carrie N. . . . .	79	-	-	-	-	-	-
Farnum, Emma M. . . .	89	90	-	-	-	-	-	Hamilton, Edward W.	80	81	82	83	83	83	-
Foster, Helen L. . . . .	89	-	-	-	-	-	-	Hersey, Ada H. . . . .	80	83	-	-	-	-	-
Flint, Arthur H. . . . .	89	90	-	-	-	-	90	Hersey, Clara . . . . .	80	-	-	-	-	-	-
Frank, Ludwig . . . . .	90	-	-	-	-	-	90	Hildreth, Mary E. . .	80	82	-	-	-	-	-
Goodnough, Walter S. .	74	-	-	-	-	-	-	Holden, Alice E. . . .	80	-	-	-	-	-	-
Green, Michael J. . . . .	75	-	-	-	-	-	-	Horten, Helen . . . . .	80	-	-	-	-	-	-
Gardner, Ella L. . . . .	76	-	-	-	-	-	-	Hutchings, Lydia A. .	80	89	-	-	-	-	-
Gotte, Jean M. . . . .	76	78	-	-	-	-	-	Herrick, Lizzie A. . .	81	84	-	-	-	-	-
Greenwood, Louis A. . .	76	77	-	-	-	-	-	Hewins, Ellen A. . . .	81	-	-	-	-	-	-
Green, Ella C. . . . .	77	78	80	79	80	80	-	Harding, Emily E. . .	83	85	-	86	-	86	-
Geer, Grace W. . . . .	78	-	-	-	-	-	-	Haskell, Jennie P. . .	84	86	-	86	-	86	-
Grigg, Anna F. . . . .	78	-	-	-	-	-	-	*Harlow, Beatrice B. .	85	-	-	-	-	-	-
Goddard, Annie K. . . .	78	-	-	-	-	-	-	Hurlbut, Martha A. . .	85	-	-	-	-	-	-
Gilman, Mary A. . . . .	79	-	-	-	-	-	-	Hammond, Mary A. . .	85	87	-	88	-	88	-
Graves, Albert M. . . .	80	81	83	82	83	83	-	Hersey, Fred. W. . . .	85	-	85	-	85	-	-
Guild, Alice E. . . . .	80	82	-	-	-	-	-	Hurlbut, Mary E. . . .	86	-	-	-	-	-	-
Gardner, Harriet E. . .	81	83	-	-	-	-	-	Howard, Bessie B. . .	86	-	-	-	-	-	-
Gay, Emma J. . . . .	82	83	-	-	-	-	-	Halden, John C. . . .	86	-	88	-	88	-	-
Gillani, C. Marguerite .	82	-	-	-	-	-	-	Hayward, Josiah P. . .	87	89	88	90	88	90	-
Gendrot, Julia A. . . .	84	-	-	-	-	-	-	Harrington, Enos B. .	87	-	-	-	-	-	-
Gendrot, Albert F. . . .	84	91	-	90	-	91	-	Hurd, Mabeth . . . . .	87	90	-	-	-	-	-
Gauthier, Julie C. . . .	84	-	-	-	-	-	-	Hyams, Sarah A. . . .	87	90	-	-	-	-	-
Gregg, Jennie W. . . . .	85	86	-	87	-	87	-	Hobbs, Minnie L. . . .	87	89	-	89	-	89	-
Goddard, Mina K. . . . .	85	86	-	-	-	-	-	Holman, Grace A. . . .	87	-	-	-	-	-	-
Gilman, Alice C. C. . . .	86	-	-	-	-	-	-	Haskell, Mabel P. . . .	88	-	-	-	-	-	-
Guenther, Rudolph . . .	86	88	-	88	-	88	-	Hatch, Evelyn . . . . .	88	89	-	-	-	-	-
Gilman, Mary E. . . . .	86	-	-	-	-	-	-	Hopkins, J. Fred . . .	88	-	89	-	89	-	-
Green, Mary L. . . . .	87	-	-	-	-	-	-	Hastings, Luella . . .	89	90	-	-	-	-	-
George, Blanche I. . . .	87	88	-	89	-	89	-	Hopkinson, Sarah . . .	89	-	-	-	-	-	-
Goss, Grace G. . . . .	87	-	-	-	-	-	-	Hall, James . . . . .	89	-	-	-	-	-	-
Goldthwait, Eliza P. . .	88	90	-	-	-	-	-	Holmes, Agnes G. . . .	90	-	-	-	-	-	-
Gould, Medora W. . . .	88	-	-	-	-	-	-	Johnson, Mary E. . . .	75	77	-	-	-	-	-
Gerrish, Mary L. . . . .	89	-	-	-	-	-	-	Joslyn, Mary E. . . . .	75	78	-	-	-	-	-
Grover, Bertha A. . . .	90	-	-	-	-	-	-	Jepson, George . . . .	75	-	-	-	-	-	-
Gould, Hattie E. . . . .	90	90	-	-	-	-	-	Jennison, Lucia N. . .	81	90	-	-	-	-	-
Hoyt, Deristhe L. . . .	74	75	-	77	-	77	-	Jackson, Jennie M. . .	83	-	-	-	-	-	-
Hooper, Wm. P. . . . .	75	-	-	-	-	-	-	Judkins, William L. . .	85	-	86	-	86	-	-
Hintz, Bertha W. . . . .	75	-	-	-	-	-	-	Jaques, Martha F. . . .	85	86	-	-	-	-	-
Hitchings, Henry . . . .	75	-	-	-	-	-	-	Jewett, Sarah E. . . .	86	88	-	-	-	-	-
Hollis, Cynthia E. . . .	76	77	81	80	81	81	-	Johnson, Alice E. . . .	88	90	-	-	-	-	-
Holmes, Anna C. . . . .	76	-	-	-	-	-	-	Jenney, Edgar W. . . .	89	-	-	-	-	-	-
Hammond, Geo. F. . . .	76	-	-	-	-	-	-	Johnson, Lydia W. . .	90	-	-	-	-	-	-
Hill, Louise M. . . . .	76	78	-	-	-	-	-	Kingsbury, Edward R.	76	77	-	-	-	-	-

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.		NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.	
	A.	B.	C.	D.						A.	B.	C.	D.				
Kaan, Emma W. . . . .	81	84	-	85	-	85	-		Murray, Henry D. . . . .	84	-	86	-	86	-	-	
Kimball, Emily . . . . .	85	86	-	87	-	87	-		Matthews, Joseph D. . . . .	84	-	-	-	-	-	-	
Kendall, Charlotte A. . . . .	85	86	-	-	-	-	-		McCarthy, John . . . . .	85	-	-	-	-	-	-	
Kimball, Lucelia A. . . . .	87	-	-	-	-	-	-		Mendum, Charlotte E. . . . .	85	87	-	88	-	88	-	
Kintz, Josephine . . . . .	88	89	-	90	-	90	-		Mosman, Fidle E. . . . .	85	-	86	-	-	-	-	
Kaula, William J. . . . .	89	90	-	-	-	-	-		Meyer, Marie L. . . . .	85	-	-	-	-	-	-	
Kimball, Anna M. . . . .	90	-	-	-	-	-	-		McIntosh, Fannie C. . . . .	85	-	-	-	-	-	-	
Locke, Emma F. . . . .	74	79	79	80	80	80	-		MacWhorter, Jennie W. . . . .	85	-	-	-	-	-	-	
*Lord, John D. . . . .	74	-	-	-	-	-	-		Murphy, May A. . . . .	85	86	-	-	-	-	-	
Loring, George A. . . . .	75	-	-	-	-	-	-		MacLeod, Louise . . . . .	88	90	-	-	-	-	90	
Loring, Susan A. W. . . . .	76	-	-	-	-	-	-		Macomber, Alice E. . . . .	88	-	-	-	-	-	89	
Locke, Josephine C. . . . .	77	81	-	-	-	-	-		Mayall, Maud A. . . . .	88	90	-	-	-	-	-	
Lovering, Ella M. . . . .	79	80	82	81	82	82	-		McLean, Laura B. . . . .	88	-	-	-	-	-	89	
Lamb, F. Mortimer . . . . .	80	81	-	82	-	-	-		McLean, Wm. H. . . . .	88	-	-	-	-	-	-	
Langley, Annie W. . . . .	80	-	-	-	-	-	-		Mussey, Dela P. . . . .	89	-	-	-	-	-	89	
Little, Abbie H. . . . .	80	82	-	-	-	-	-		Mahoney, Nellie M. . . . .	89	-	-	-	-	-	89	
Laughlin, Ada M. . . . .	82	-	-	-	-	-	-		Meleney, Harriet E. . . . .	90	-	-	-	-	-	-	
Lewis, Jennie F. . . . .	82	84	86	85	86	85	-		Meehan, Helen L. . . . .	90	-	-	-	-	-	90	
Livingston, Cora J. . . . .	83	84	-	-	-	-	-		Mason, Adra R. . . . .	90	-	-	-	-	-	-	
Lawrence, Chas. A. . . . .	84	-	-	-	-	-	-		Nolen, Caroline . . . . .	74	-	-	-	-	-	-	
La Pierre, A. Lillian . . . . .	86	-	88	-	88	-	-		Norcross, Ella A. . . . .	75	77	-	-	-	-	-	
Lane, John A. . . . .	87	-	88	-	88	-	-		Nason, M. E. . . . .	77	-	-	-	-	-	-	
Lord, D. Franklin . . . . .	87	-	88	-	88	-	-		Norton, Dora M. . . . .	79	80	81	-	-	-	-	
Lane, Georgiana . . . . .	88	90	-	-	-	-	-		Needham, Ellie . . . . .	81	-	-	-	-	-	-	
Lawrence, Edward I. . . . .	88	-	-	-	-	-	-		Noyes, Frank H. . . . .	84	86	86	87	86	87	-	
Leach, Mabel W. . . . .	89	-	-	-	-	-	-		Nye, A. Maud . . . . .	84	85	86	87	86	87	-	
Lawrence, Archibald I. . . . .	89	90	-	-	-	-	-		Norton, Susie M. . . . .	85	87	-	87	-	87	-	
Leeds, Helen H. . . . .	89	-	-	-	-	-	-		Norwood, Annie F. . . . .	86	87	-	-	-	-	-	
Lyons, May I. . . . .	90	-	-	-	-	-	-		Norton, Georgia L. . . . .	87	89	90	-	90	-	-	
Lacey, Harriet L. . . . .	90	-	-	-	-	-	-		Nelson, Lucy N. . . . .	88	-	-	-	-	-	89	
Lavers, Mary E. . . . .	90	-	-	-	-	-	-		Norton, Florence E. . . . .	90	-	-	-	-	-	-	
Miller, Leslie W. . . . .	74	80	-	-	-	-	-		Nichols, Amy L. . . . .	90	-	-	-	-	-	-	
Mansfield, Mary . . . . .	75	75	-	-	-	-	-		Oakes, S. Pierce . . . . .	75	-	-	-	-	-	-	
Marble, J. M. . . . .	75	-	-	-	-	-	-		O'Connor, Minnie . . . . .	79	-	-	-	-	-	-	
Mason, Wm. A., Jr. . . . .	75	80	79	80	80	80	-		O'Brien, Arthur F. . . . .	85	87	-	87	-	87	-	
Marsh, Helen F. . . . .	76	-	-	-	-	-	-		Osgood, Alice J. . . . .	89	-	-	-	-	-	-	
Mansfield, Frank . . . . .	77	-	-	-	-	-	-		Pierce, Osborn J. . . . .	74	-	-	-	-	-	-	
Moon, Mintie . . . . .	77	79	-	-	-	-	-		Putnam, Benj. W. . . . .	74	75	-	-	-	-	-	
Munsell, Albert H. . . . .	77	79	80	81	81	81	-		Parker, Frank G. . . . .	75	-	-	-	-	-	-	
Merriam, Ada A. . . . .	78	-	-	-	-	-	-		*Patten, Arthur C. . . . .	75	77	76	77	77	77	-	
Molineux, Henrieta . . . . .	78	-	-	-	-	-	-		Peabody, Margie G. . . . .	75	-	-	-	-	-	-	
Mellen, Laura M. . . . .	79	-	-	-	-	-	-		Perrin, Julia . . . . .	75	-	-	-	-	-	-	
Merritt, Jennie M. . . . .	80	82	-	-	-	-	-		Perry, Walter S. . . . .	75	-	-	-	-	-	-	
Metcalf, Emma F. . . . .	80	-	-	-	-	-	-		Pitman, Sophia L. . . . .	75	76	-	-	-	-	-	
Morris, George E. . . . .	80	81	82	83	83	83	-		Palmer, Laura E. . . . .	76	-	-	-	-	-	-	
Meisel, Jennie M. . . . .	81	83	-	-	-	-	-		Plaisted, Lilla M. . . . .	76	79	-	78	-	79	-	
Mills, Alice . . . . .	81	-	-	-	-	-	-		Parsons, Caroline L. . . . .	77	78	-	-	-	-	-	
Martin, H. Isabel . . . . .	81	82	-	-	-	-	-		Parsons, Lydia A. . . . .	77	79	-	-	-	-	-	
Munsell, Ida E. . . . .	82	84	-	85	-	85	-		Perry, Chas. H. . . . .	77	-	-	-	-	-	-	
MacNeil, Herman A. . . . .	83	85	84	86	86	86	-		Porter, George M. . . . .	77	-	-	79	-	-	-	
Mason, Alice C. . . . .	83	-	-	-	-	-	-		Page, Henrietta . . . . .	78	-	-	-	-	-	-	
Mann, Josephine B. . . . .	84	-	-	-	-	-	-		Parker, Emma T. . . . .	78	-	-	-	-	-	-	
Mendum, Mary E. . . . .	84	-	-	-	-	-	-		Prichard, John A. . . . .	78	79	80	79	80	80	-	
MacLauthlin, Rena . . . . .	84	86	-	-	-	-	-		Prince, Flora . . . . .	78	-	-	-	-	-	-	

\* Deceased.



NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.
	A.	B.	C.	D.					A.	B.	C.	D.			
Piper, Edwin D. . . .	79	-	81	-	-	-	-	Spalter, A. Maria . . .	75	-	-	-	-	-	-
Poole, Jennie A. . . .	80	-	-	-	-	-	-	Stewart, Nellie W. . .	75	77	-	-	-	-	-
Poor, Henry W. . . .	80	81	83	82	83	83	-	Saunders, Carrie H. . .	76	78	-	-	-	-	-
Page, Hollis B. . . .	81	-	-	-	-	-	-	Shepley, Annie B. . .	76	-	-	-	-	-	-
Pillsbury, E. . . .	81	-	-	-	-	-	-	Starbuck, Francis M. . .	76	-	-	-	-	-	-
Pond, Adeline V. . . .	81	82	-	83	-	83	-	Smith, Elmer B. . . .	77	-	-	-	-	-	-
Packard, Fred C. . . .	82	-	-	-	-	-	-	Sanborn, Arthur H. . .	78	-	-	-	-	-	-
Page, Edith . . . .	83	-	-	-	-	-	-	Shattuck, Katie E. . .	79	-	-	79	-	-	-
Peterson, Georgia . . .	83	-	-	-	-	-	-	Sherman, Lillie L. . .	78	-	-	-	-	-	-
Perkins, Bessie H. . .	85	-	-	-	-	-	-	Smith, Elmira G. . . .	78	-	-	-	-	-	-
Prince, Jessie N. . . .	85	88	-	-	-	-	-	*Stetson, Julia A. . . .	78	79	-	-	-	-	-
Pitblado, Grace . . .	86	-	-	-	-	-	-	Storer, Charles . . . .	78	-	-	-	-	-	-
Parker, Emma M. . . .	87	-	-	-	-	-	-	Stone, Josephine M. . .	78	78	-	-	-	-	-
Perry, Elizabeth H. . .	87	-	-	-	-	-	-	Simmons, Elizabeth J. .	78	81	-	-	-	-	-
Park, Emma A. . . .	88	-	-	-	-	-	-	Stacey, John F. . . .	79	79	81	80	81	81	-
Parker, Rosalie Y. . . .	88	-	-	-	-	-	-	Smith, Clara M. . . .	80	-	-	-	-	-	-
Parker, Grace A. . . .	88	90	-	-	-	-	-	Smith, May L. . . .	80	81	-	82	-	82	-
Patrick, Mary L. . . .	88	-	-	-	-	-	-	Sherry, A. Fannie . . .	80	81	-	-	-	-	-
Phillips, Ezra L. . . .	88	-	89	-	89	-	-	*Swasey, Josephine F.M.	80	-	-	-	-	-	-
Potter, Sarah E. . . .	88	-	-	-	-	-	-	Scribner, A. W. . . .	81	82	84	83	84	84	-
Pray, Mary J. . . .	88	-	-	-	-	-	-	Sears, Kate B. . . .	82	-	-	-	-	-	-
Prichard, Mary S. . . .	89	-	-	-	-	-	-	Sears, Minnie P. . . .	82	-	-	-	-	-	-
Pierce, Kate F. . . .	89	-	-	-	-	-	-	Sherman, Mertie E. . .	82	84	-	-	-	-	-
Putnam, Florence J. . .	89	-	-	-	-	-	-	Slafter, Annie R. . . .	82	83	-	-	-	-	-
Pond, Pearl F. . . .	89	-	-	-	-	-	-	Stetson, M. Josie . . .	82	-	-	-	-	-	-
Paige, Lida E. . . .	89	-	-	-	-	-	-	*Sweeney, Thomas E. . .	82	83	84	85	85	85	-
Poole, Susan P. . . .	90	-	-	-	-	-	-	Sanborn, Lizzie M. . . .	83	85	84	86	86	86	-
Roos, Peter . . . .	74	-	-	-	-	-	-	Skinner, Wm. L. . . .	83	84	86	85	86	86	-
Robbins, Sarah H. . . .	75	-	-	-	-	-	-	Smith, Fannie H. . . .	83	85	-	-	-	-	-
Rose, Eben . . . .	75	79	79	78	79	79	-	Spaulding, Alice Maud	84	85	-	88	-	88	-
Roys, Viola G. . . .	76	-	-	-	-	-	-	Smith, Mary B. . . .	85	89	86	-	86	-	-
Radford, Helen L. . . .	78	-	-	-	-	-	-	Smith, Mollie . . . .	85	-	-	-	-	-	-
Rich, Delia C. . . .	78	-	-	-	-	-	-	Smith, Emma F. . . .	85	-	-	-	-	-	-
Richards, W. F. . . .	78	-	-	-	-	-	-	Stephens, Kate . . . .	85	-	-	-	-	-	-
Richardson, Theo. J. . .	79	-	-	-	-	-	-	Sinclair, Annie N. . . .	85	86	-	-	-	-	-
Rodman, Warren A. . .	79	-	-	-	-	-	-	Smith, Nellie E. . . .	86	88	-	-	-	-	-
Richards, Mary F. . . .	80	82	-	-	-	-	-	Smith, Carrie E. . . .	86	88	-	-	-	-	-
Roberts, Walton H. . . .	81	-	-	-	-	-	-	Snowe, Myrtle W. . . .	86	-	-	-	-	-	-
Robinson, Wm. S. . . .	81	83	82	84	84	84	-	Swain, Amy . . . .	86	87	88	89	88	89	-
Rice, Abby E. . . .	83	86	84	-	84	-	-	Starkweather, Sidney F.	86	-	-	-	-	-	-
Roberts, Gertrude . . .	84	87	85	-	85	-	-	Sanborn, Fred C. . . .	87	-	-	-	-	-	-
Rowland, Emma E. . . .	85	-	-	-	-	-	-	Smith, Lucy S. . . .	88	-	-	-	-	-	89
*Rowell, B. Howard . .	87	-	-	-	-	-	-	Smith, Mary A. . . .	88	90	-	-	-	-	-
Raymond, Alice L. . . .	87	-	-	-	-	-	-	Speckman, Bertha H. . .	88	-	-	-	-	-	-
Robinson, Catherine . .	87	89	-	-	-	-	-	Stevenson, May I. . . .	89	-	-	-	-	-	89
Rice, Natalie L. . . .	87	89	-	-	-	-	-	Stantial, Susie M. . . .	89	-	-	-	-	-	-
Robinson, Katherine H.	88	90	-	-	-	-	-	Swasey, Anna M. . . .	89	-	-	-	-	-	89
Rogers, Margaret . . . .	88	89	-	90	-	90	-	Sumner, Gretta A. . . .	90	-	90	-	90	-	-
Russell, Carrie L. . . .	88	-	-	-	-	-	-	Starbird, Grace G. . . .	90	-	-	-	-	-	-
Russell, Walter B. . . .	88	90	-	-	-	-	-	Smith, Carrie M. . . .	90	-	-	-	-	-	-
Ransone, Estelle . . . .	89	-	-	-	-	-	-	Sanger, Ellen I. . . .	90	-	-	-	-	-	90
Ruddick, Kate . . . .	90	-	-	-	-	-	-	Shedd, Helen S. . . .	90	-	-	-	-	-	-
Rogers, Henry H. . . .	90	-	90	-	90	-	-	Sanders, Ethel H. . . .	90	-	-	-	-	-	-
Shaw, Annie F. . . .	75	77	-	-	-	-	-	Schmitt, Albert F. . . .	90	-	-	-	-	-	-

\* Deceased.

NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.	NAME OF STUDENT.	CLASS CERTIFICATES.				Diplomas, A. C.	Diplomas, A. B. D.	Diplomas, Public school class.
	A.	B.	C.	D.					A.	B.	C.	D.			
Sylvester, Fred O. . .	90	-	-	-	-	-	90	*Webster, Clara E. . .	78	-	-	-	-	-	-
Sargent, Walter L. . .	90	-	-	-	-	-	-	Wellington, Sarah H. . .	78	-	-	-	-	-	-
Tufts, Abbie B. . . .	74	-	-	-	-	-	-	Whitney, Lizzie E. . .	78	79	-	-	-	-	-
Taylor, Will L. . . .	75	-	-	-	-	-	-	Whitney, Chas. F. . .	78	-	-	-	-	-	-
Tucker, Emily J. . . .	75	-	-	-	-	-	-	White, Abbie M. . . .	78	-	-	-	-	-	-
Thompson, Wm. A. . .	76	-	-	-	-	-	-	Wild, Mary E. . . .	78	-	-	-	-	-	-
Taft, Mary F. . . .	77	-	-	-	-	-	-	Williams, Maria F. . .	78	-	-	-	-	-	-
*Thaxter, Thomas W. .	77	-	-	-	-	-	-	Wiley, Emma I. S. . .	78	-	-	-	-	-	-
Thompson, L. S. . . .	77	-	-	-	-	-	-	Wilson, Clara . . . .	79	80	83	81	83	83	-
Torrey, Wm F. . . .	77	-	-	-	-	-	-	Whitcomb, Camilla G.	80	81	-	-	-	-	-
Trask, Abbie J. . . .	77	-	-	-	-	-	-	White, Sarah L. . . .	80	-	-	-	-	-	-
Thomas, Ella A. . . .	78	-	-	-	-	-	-	*Withey, Alice A. . .	80	81	-	82	-	82	-
*Titus, Lucy E. . . .	80	-	-	-	-	-	-	Woods, Jennie A. . .	80	82	-	-	-	-	-
Taylor, George . . .	81	82	-	-	-	-	-	Woods, Florence . . .	80	-	-	-	-	-	-
Todd, Emma . . . .	81	33	-	84	-	84	-	Walker, Gertrude B. .	81	-	-	-	-	-	-
*Tibbetts, Arthur L. .	82	-	-	-	-	-	-	Walton, Mary . . . .	81	-	-	-	-	-	-
Tilton, M. Bessie . .	82	-	-	-	-	-	-	White, Lucy F. . . .	82	-	-	-	-	-	-
Titus, Sarah A. . . .	83	-	-	-	-	-	-	Whitcomb, Fannie M. .	82	-	-	-	-	-	-
Teed, Hannah J. . . .	84	-	-	-	-	-	-	Wilbar, M. Ella . . .	82	-	-	-	-	-	-
Taylor, Antoinette P. .	86	87	-	-	-	-	-	Wilson, Lizzie E. . .	82	-	-	-	-	-	-
Talbot, Ella C. . . .	87	-	-	-	-	-	-	Woodward, William . .	83	83	84	86	84	86	-
Titcomb, Mary B. . .	87	-	-	-	-	-	-	Wadsworth, Florence L.	84	-	-	-	-	-	-
Treadwell, Elizabeth B.	90	-	-	-	-	-	90	Weymouth, Georgia .	84	-	-	-	-	-	-
Upham, Esther M. . .	85	-	-	-	-	-	-	Wright, Ida M. . . .	85	-	-	-	-	-	-
Upham, Alice B. . . .	87	89	-	-	-	-	-	Woodbury, Alice P. . .	85	87	-	-	-	-	-
Upham, Lena L. . . .	87	89	-	90	-	90	-	Walsh, Lilian K. . . .	86	88	-	-	-	-	-
Vonnoh, Robert W. . .	77	78	-	79	-	79	-	Watson, Anna I. . . .	87	-	-	-	-	-	-
Vance, Carrie M. . . .	82	84	-	85	-	-	-	Willard, Alice F. . .	87	91	-	-	-	-	-
Van Rusen, Edward C.	90	-	-	-	-	-	-	Whitman, Katherine D.	87	88	-	89	-	89	90
Walker, Sophia A. . .	75	-	-	-	-	-	-	Wilcombe, Nellie C. .	87	88	-	-	-	-	-
Whiton, Maria E. . . .	75	-	-	-	-	-	-	Warner, Annette J. . .	88	-	-	-	-	-	-
Ware, George Wild . .	76	-	-	-	-	-	-	Wentworth, Kate B. .	88	-	89	-	89	-	-
Wellington, Leah N. .	76	77	-	78	-	-	-	White, Ada G. . . .	88	-	-	-	-	-	-
Webster, Clara E. . .	77	78	80	79	80	80	-	Whitney, Maud M. . .	88	-	-	-	-	-	-
Webster, Addie L. . .	77	-	-	-	-	-	-	Wright, Gertrude B. .	89	-	-	-	-	-	-
Woodman, George E. .	77	-	-	-	-	-	-	Williams, Frederick N.	89	-	-	-	-	-	-
Watson, Lucretia S. .	78	-	-	-	-	-	-	White, Herbert D. . .	90	-	-	-	-	-	-
Webster, M. Isabel . .	78	80	-	-	-	-	-	Young, Esther M. . .	85	87	-	88	-	88	-

\* Deceased.

